ANNUAL REPORT 2019

covestro

KEY DATA

COVESTRO GROUP

	2018[1]	2019	Change
	€ million	€ million	%
Core volume growth[2, 3]	**+1.5%**	**+2.0%**	
Sales	14,616	12,412	–15.1
Change in sales			
Volume	+2.3%	+0.8%	
Price	+4.5%	–17.3%	
Currency	–3.0%	+1.9%	
Portfolio	–0.4%	–0.5%	
Sales by region			
EMLA[4]	6,284	5,289	–15.8
NAFTA[5]	3,469	3,141	–9.5
APAC[6]	4,863	3,982	–18.1
EBITDA[7]	**3,200**	**1,604**	**–49.9**
Changes in EBITDA			
of which volume	+6.3%	+2.3%	
of which price	+18.7%	–79.2%	
of which raw material price effect	–16.8%	+15.1%	
of which currency	–2.9%	+1.3%	
EBIT[8]	2,580	852	–67.0
Financial result	(104)	(91)	–12.5
Net income[9]	1,823	552	–69.7
Earnings per share (€)[10]	9.46	3.02	–68.1
Operating cash flows[11]	2,376	1,383	–41.8
Cash outflows for additions to property, plant, equipment and intangible assets	707	910	+28.7
Free operating cash flow[12]	**1,669**	**473**	**–71.7**
Net financial debt[13, 14]	348	989	>100
ROCE[15]	**+29.5%**	**+8.4%**	
Employees (in FTE)[14, 16]	16,770	17,201	+2.6

[1] Reference information was not restated, see Note 2.1 "Financial Reporting Standards Applied for the First Time in the Reporting Period."
[2] Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of precursors and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.
[3] Reference values calculated based on the definition of the core business effective March 31, 2019
[4] EMLA: Europe, Middle East, Africa and Latin America (excl. Mexico) region
[5] NAFTA: United States, Canada and Mexico region
[6] APAC: Asia and Pacific region
[7] EBITDA: EBIT plus depreciation and amortization
[8] EBIT: income after income taxes plus financial result and income taxes
[9] Net income: income after income taxes attributable to the stockholders of Covestro AG
[10] Earnings per share: according to IAS 33, earnings per share comprise net income divided by the weighted average number of outstanding no-par voting shares of Covestro AG. The calculation was based on 182.728.724 no-par shares (previous year: 192.768.826 no-par shares).
[11] Operating cash flows: cash flows from operating activities according to IAS 7
[12] Free operating cash flow: operating cash flows less cash outflows for additions to property, plant, equipment and intangible assets
[13] Excluding obligations for pensions and other post-employment benefits
[14] As of December 31, 2019 compared with December 31, 2018
[15] ROCE: The return on capital employed is calculated as the ratio of adjusted operating result (EBIT) after imputed income taxes to capital employed. The capital employed is the capital used by the company. It is the sum of noncurrent and current assets less noninterest-bearing liabilities such as trade accounts payable.
[16] Employees calculated as full-time equivalents (FTE)

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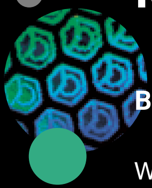
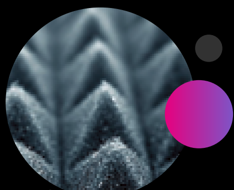
MAGAZINE





FINANCIAL REPORT

REPORTING PROFILE

FORWARD-LOOKING STATEMENTS

This Annual Report may contain forward-looking statements based on current assumptions and forecasts made by the management of Covestro AG. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the Group and the estimates given here. These factors include those discussed in Covestro's public reports, which are available at **www.covestro.com**. The Group assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

NONFINANCIAL REPORTING

The Covestro Group's nonfinancial statement in accordance with Sections 315b and 315c in conjunction with Sections 289c through 289e of the German Commercial Code (HGB) is integrated into the Group Management Report. The respective sections include the strategies we pursue in addressing environmental, labor and social issues as well as protecting human rights and fighting corruption and bribery, the due diligence processes followed, as well as the outcomes of these strategies. Nonfinancial performance indicators are reported only when these are important to the Covestro Group.

In addition to this Annual Report, we provide supplementary sustainability information that is not the subject of the Group Management Report in the online version of our Annual Report at **report.covestro.com**. The Group Management Report and the supplementary sustainability information comprise our company's sustainability reporting, which is aligned with international standards and recommendations. Our sustainability reporting is prepared in accordance with the "Core" option of the Global Reporting Initiative's (GRI) Sustainability Reporting Standards (SRS).

ROUNDING

As the indicators in this report are stated in accordance with commercial rounding principles, totals and percentages may not always be exact.

PERCENTAGE DEVIATIONS

Percentage deviations are only calculated and reported if they are no more than 100%. Larger deviations are reported as >100%, >200%, etc. If a deviation changes from positive to negative or vice versa, or if it is greater than 1,000%, this is shown by a period.

EFFECTS OF NEW FINANCIAL REPORTING STANDARDS

Comparative information relating to the 2018 fiscal year was not restated according to the new accounting standards. For more information, see note 2.1 "Financial reporting standards applied for the first time in the reporting period" in the Notes to the Consolidated Financial Statements.

EQUAL TREATMENT

We consider equal treatment to be important. To ensure legibility, this Annual Report avoids gender-specific wordings. All terms should be taken to apply equally to all genders.

This Annual Report was published on February 19, 2020. It is available in German and English. Only the German version is binding.

TO OUR STOCKHOLDERS

REPORT OF THE SUPERVISORY BOARD

Dr. Richard Pott, Chairman of the Supervisory Board

Dear Stockholders,

During the reporting period, the Supervisory Board of Covestro AG performed its duties with due care in accordance with the law, the Articles of Incorporation, and the rules of procedure. During fiscal 2019, it monitored the conduct of the company's business by the Board of Management with regular frequency based on detailed written and oral reports received from the Board of Management, and also acted in an advisory capacity. The discussions between the Supervisory Board and Board of Management were always constructive and were conducted in the spirit of openness and trust.

The Supervisory Board Chair was in regular contact with the Board of Management outside of Supervisory Board meetings and remained informed about current developments in the company's business performance and material transactions. In addition, the Chair of the Supervisory Board was in close contact with the Board of Management Chair to discuss important questions and decisions one on one. The full Supervisory Board was informed in detail about the content of these discussions no later than during the next meeting.

In this way, the Supervisory Board was kept regularly and fully informed in the respective meetings about the company's intended business strategy, corporate planning (including financial, investment, and human resources planning), the company's profitability, the state of the business, and the situation of the company and the Group (including the risk situation, risk management, and the compliance situation). Where Board of Management decisions or actions required the approval of the Supervisory Board during the reporting period, whether by law, or under the Articles of Incorporation or the rules of procedure, the draft resolutions were inspected and thoroughly discussed by the members of the Supervisory Board at its meetings, sometimes after preparatory work by the responsible committees, or approved in writing on the basis of documents circulated to the members. The Supervisory Board was always directly involved in decisions of material importance to the company. It thoroughly discussed the business trends described in the reports from the Board of Management and the prospects for the development of the Covestro Group as a whole, the individual segments, and the regions. The Supervisory Board continually ensured that the actions of the Board of Management were lawful, due and proper, and appropriate.

Meetings of the full Supervisory Board and member attendance

In fiscal year 2019, the Supervisory Board held a total of six regular meetings, all of which were also attended by at least one member of the Board of Management, except where issues were discussed that required them to be absent.

The average attendance rate at the meetings of the full Supervisory Board and of its committees was over 98% in 2019. No member of the Supervisory Board attended fewer than half of the meetings of the full Supervisory Board and of the committees to which he or she belonged.

Specifically, the members of the Supervisory Board attended the meetings of the Supervisory Board and its committees, as follows. Three committee meetings were held by telephone conference.

Member of the Supervisory Board	Meeting attendance (including committee meetings)	Attendance rate (%)
Dr. Richard Pott (Chair)	19/19	100.0
Ferdinando Falco Beccalli	9/9	100.0
Dr. Christine Bortenlänger	6/6	100.0
Johannes Dietsch	15/16	93.8
Peter Hausmann	9/10	90.0
Petra Kronen (Vice Chair)	16/16	100.0
Irena Küstner	10/10	100.0
Dr. Ulrich Liman	12/12	100.0
Prof. Dr. Rolf Nonnenmacher	10/10	100.0
Regine Stachelhaus	9/9	100.0
Marc Stothfang	6/6	100.0
Frank Werth	6/6	100.0
Average attendance rate		**98.4**

Only in two cases – one meeting of the Human Resources Committee and one meeting of the Audit Committee – did a member of the respective committee not attend on short notice for personal reasons.

Based on its composition and experience, the Supervisory Board as a whole has in-depth industry expertise in the polymer sector in which Covestro operates.

In the 2019 reporting period, personal continuing education was again an important activity for Supervisory Board members. For example, members visited the Covestro production site in Antwerp (Belgium) and attended an event with a guest lecture, which addressed developments relevant to the chemical industry at the EU level. The Supervisory Board also participated in a day-long workshop to review the core elements of the Group’s strategy in connection with a visit to the K 2019 plastics trade fair, at which Covestro exhibited. Moreover, the Supervisory Board considered the effects of national industrial policy and international trade conflicts on China’s chemical market as part of another guest lecture and in-depth discussion. Information was also exchanged and discussed regarding an issue pertaining to corporate law.

Principal topics discussed by the Supervisory Board

The deliberations of the Supervisory Board focused on the Board of Management's regular reports on business activities, which contained detailed information on the development of the sales and earnings for the Group and the segments as well as on the strategy, opportunities and risks situation, and personnel matters at Covestro. The Supervisory Board also concentrated on the following topics in its individual meetings:

In its meeting on February 22, 2019, the Supervisory Board discussed at length the results of its effectiveness and efficiency review performed as a self-evaluation based on a written questionnaire answered by Supervisory Board members. The main topics covered were the Supervisory Board meeting process; cooperation with the Board of Management; the provision of information to the Supervisory Board; the responsibilities, composition and work of the committees; and cooperation with the stockholder and employee representatives. On the whole, the Supervisory Board's activity was evaluated and found to be efficient by its members. Moreover, the Supervisory Board extensively discussed the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group for fiscal 2018, the combined management report including the Group's nonfinancial statement, the proposal for the use of the distributable profit, as well as the agenda and proposed resolutions for the 2019 Annual General Meeting. The Supervisory Board also thoroughly reviewed the audit report and the auditor's oral report concerning the material results of the audit. In addition, the Supervisory Board examined internal risk reporting, which sets out the material risks for the Group and current developments in this regard, as well as the relevant counter-measures. Furthermore, the organization, statistics, training efforts, processes, and effectiveness of the Group's compliance management system were reviewed in depth.

Prior to the Annual General Meeting (AGM) on April 12, 2019, the Supervisory Board mainly met to prepare for the upcoming AGM.

At the Supervisory Board meeting on June 4, 2019, in Antwerp (Belgium), the focus was particularly on the appointment of the new Board of Management member responsible for Innovation, Marketing and Sales, Sucheta Govil. In addition, Supervisory Board members extensively addressed the current organization of the Board of Management as well as the focus of the other Board of Management areas of responsibility. Furthermore, certain aspects of the investment strategy and planning were discussed. The Supervisory Board also received information about the capabilities and potential for value creation unlocked by digitalization in Group-wide research and development.

At its meeting on August 27, 2019, the Supervisory Board again discussed ongoing capital expenditures at length, particularly with a view to cost efficiency and planning accuracy. The Supervisory Board was additionally informed in detail about the importance of the circular economy for Covestro.

Taking account of the extensive dialogue and discussions that occurred during a strategy workshop that was conducted on the previous day, the Supervisory Board in its meeting on October 18, 2019, again addressed the strategy implementation thus far and continued considerations with respect to the six key elements: investment, innovation, M&A, efficiency and effectiveness, digitalization, and corporate culture. The Supervisory Board was also informed about the focus and direction of the HR strategy. In this meeting, the Supervisory Board also voted to issue an unqualified declaration of conformity with the German Corporate Governance Code in the February 7, 2017, version.

In its last meeting on December 3, 2019, the Supervisory Board deliberated on the review of the appropriateness of the Board of Management's compensation, including the long-term compensation components for the period from 2020 to 2023. The Board additionally discussed in detail the financial planning for fiscal 2020 proposed by the Board of Management and the medium-term outlook also presented. Moreover, the Supervisory Board approved the proposed financial framework for fiscal 2020.

Supervisory Board (from left to right): Irena Küstner, Prof. Dr. Rolf Nonnenmacher, Petra Kronen, Dr. Ulrich Liman, Dr. Richard Pott, Ferdinando Falco Beccalli, Johannes Dietsch, Frank Werth, Regine Stachelhaus, Marc Stothfang, Peter Hausmann and Dr. Christine Bortenländer

Committees of the Supervisory Board

In the past fiscal year, the Supervisory Board again had four committees set up for the purpose of exercising its duties efficiently. The committees prepared resolutions by the full Supervisory Board and provided information on other topics to be discussed by this body. Moreover, certain decision-making powers of the Supervisory Board were assigned to the committees to the extent legally permissible. The Supervisory Board currently has a Presidial Committee, an Audit Committee, a Human Resources Committee and a Nominations Committee. The tasks and responsibilities of the committees and their current composition are described in greater detail in "Declaration on Corporate Governance" under "Committees of the Supervisory Board" in the Combined Management Report.

The meetings and decisions of the committees, and especially the meetings of the Audit Committee, were prepared on the basis of reports and explanations provided by the Board of Management. The committee chairs regularly provided comprehensive reports on the work of the committees to the full Supervisory Board.

In 2019, the **Presidial Committee** was not required to convene in its capacity as the mediation committee.

The **Audit Committee** met a total of four times on February 21, April 25, July 23, and October 25, 2019, in the presence of the CFO. Two of these meetings were also attended by the auditor. The committee conducted a preparatory review of the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, the combined management report, and the proposal for the use of the distributable profit for the Supervisory Board and provided a detailed explanation of the audit report in each case. The auditor also presented an oral report on the material findings of the audit. The combined management report also included the Group's nonfinancial statement. In conducting its review, the Audit Committee found no grounds for objections. In addition, the Audit Committee discussed with the Board of Management the half-year financial report in light of the results of the review by the auditor, and the Q1 and Q3 2019 interim statements prior to their publication.

The Audit Committee monitored the accounting and financial reporting process as well as the effectiveness of the internal control system and the risk management system based on information such as reporting by the head of the internal audit department and the auditor of the financial statements. No material weaknesses were identified in the internal control system for financial reporting purposes or the risk early warning system.

The Audit Committee additionally undertook preparations for the Supervisory Board's proposal for the appointment of the financial statement auditor by the Annual General Meeting, the engagement of the auditor and agreement on the auditor's fee. It monitored the effectiveness of the audit and the independence of the auditor as well as the supplementary non-audit services provided in addition to the financial statement audit. In this context, the committee had the auditor confirm their independence.

The Audit Committee continually exchanged information with the auditor about the material audit risks and the necessary direction of the audit, as well as discussing the areas of focus for the audit proposed by the auditor.

Furthermore, the Audit Committee obtained information on an ongoing basis on enhancements to the compliance management system (particularly regarding anti-corruption measures), on the handling of suspected compliance violations, progress in significant litigation, new legal and regulatory risks, and on the risk situation, risk tracking, and risk monitoring in the Group. The internal audit department provided regular reports about risk assessments.

The heads of the relevant departments also participated in meetings of the Audit Committee on selected agenda items, reported on these and answered questions. In addition, the Chair of the Audit Committee discussed important matters between meetings, particularly with the Supervisory Board Chair, the CFO and the auditor. The key results of these discussions were reported regularly to the Audit Committee and the Supervisory Board.

In the year under review, the **Human Resources Committee** met a total of six times on February 21, April 12, June 3, August 27, October 10, and December 3, 2019. In its first meeting, the Committee primarily considered the target attainment Board of Management members and received information about the status of the search for a successor for the Board of Management member responsible for Innovation, Marketing and Sales (Chief Commercial Officer). At the meeting on June 3, the Human Resources Committee concentrated mainly on the appointment of the new Board of Management member Sucheta Govil and her employment contract. During the fourth and fifth meetings, the committee was informed about the Covestro human resources strategy and discussed the long-term succession planning for the Board of Management. In its last meeting on December 3, 2019, the Board held preparatory discussions regarding the subsequent Supervisory Board meeting on the review of the appropriateness of the Board of Management's compensation.

In the reporting period, the **Nominations Committee** met for a total of three meetings held on February 22, May 21, and November 19, 2019. The meetings focused on issues such as the review of the competence profile and diversity concept for the Supervisory Board and preparation for selecting candidates for the election of new Supervisory Board members at the 2020 Annual General Meeting. The Nominations Committee developed a proposal for filling stockholder representative positions that will be presented to the Supervisory Board for a vote. This proposal is based on an analysis of the skills required overall for and already represented on the Covestro Supervisory Board, taking into account the goals that provide for diversity.

Financial statements/audit

The financial statements of Covestro AG were prepared according to the requirements of the German Commercial Code (HGB) and German Stock Corporation Act (AktG). The consolidated financial statements of the Covestro Group were prepared according to the German Commercial Code and the International Financial Reporting Standards (IFRSs) as adopted by the European Union (EU). The combined management report including the Group's nonfinancial statement was prepared according to the German Commercial Code. The auditor, KPMG AG Wirtschaftsprüfungsgesellschaft, Düsseldorf, audited the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, and the combined management report including the Group's nonfinancial statement. KPMG AG Wirtschaftsprüfungsgesellschaft has audited Covestro's financial statements since fiscal 2018. Dr. Markus Zeimes and Oliver Geier signed the Independent Auditor's Report for fiscal year 2019. Both first signed the Independent Auditor's Report as of December 31, 2018. The conduct and results of the audit are explained in the auditor's reports. According to the auditor's results, Covestro has complied with the German Commercial Code, the German Stock Corporation Act and/or the IFRS regulations as adopted by the EU, and issues unqualified opinions on the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group. The financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, the combined management report including the Group's nonfinancial statement, and the audit reports were submitted to all members of the Supervisory Board. At meetings to discuss the financial statements, the Audit Committee and the Supervisory Board reviewed the financial statement documentation in depth after the auditor's report was presented. The auditor attended both meetings.

The Supervisory Board examined the financial statements of Covestro AG, the proposal for the use of the distributable profit, the consolidated financial statements of the Covestro Group, and the combined management report including the Group's nonfinancial statement. It had no objections and thus concurred with the result of the audit.

The Supervisory Board approved the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group prepared by the Board of Management. The financial statements of Covestro AG are thus confirmed. The Supervisory Board is in agreement with the combined management report and, in particular, with the assessment of the future development of the enterprise. It also concurs with the dividend policy and the decision to add to the company's reserves. The Supervisory Board agreed with the proposal for the use of the distributable profit, which proposes a dividend of €2.40 per share.

Corporate governance and declaration of conformity

During the reporting year, the Supervisory Board again extensively addressed Covestro's corporate governance, taking into account the German Corporate Governance Code and, together with the Board of Management, submitted an unqualified declaration of conformity in accordance with Section 161 of the German Stock Corporation Act in October 2019 based on the Code in the February 7, 2017, version.

Change in the composition of the Supervisory Board

Peter Hausmann stepped down at the end of fiscal 2019 after retiring. The Supervisory Board would like to thank Peter Hausmann for the good working relationship. The court appointed Petra Reinbold-Knape as his successor.

Expression of appreciation from the Supervisory Board

The Supervisory Board would like to thank the Board of Management and all of Covestro's employees for their unwavering dedication in the 2019 fiscal year. We wish you all success in further implementing the company's strategic goals.

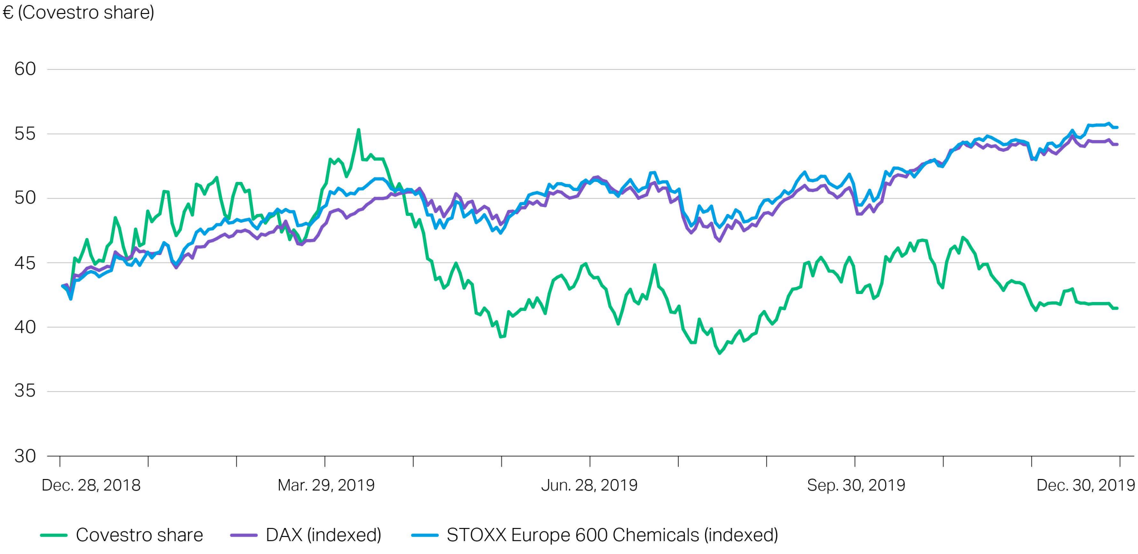
Leverkusen, February 18, 2020

For the Supervisory Board

Dr. Richard Pott
Chairman

COVESTRO ON THE CAPITAL MARKET

Performance of Covestro stock versus market in fiscal year 2019



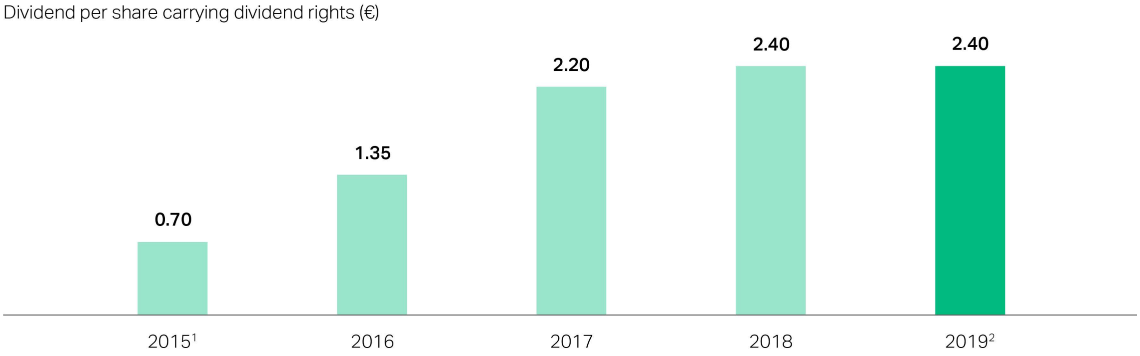
Covestro closing prices Xetra; source: Bloomberg

Cyclical chemical stocks under further pressure despite positive equity environment

European stock markets performed well in 2019, thereby recovering from a weak year on stock markets in 2018. Many indices such as the EURO STOXX 50* posted positive performances for the year. At the end of 2019, the DAX, which is relevant for Covestro, was up 25.5% compared with its value at year-end 2018, while the STOXX Europe 600 Chemicals** index gained 28.5% during the same period.

Cyclical chemical stocks continued to experience downward pressure, however, driven by uncertainties arising from ongoing trade conflicts and the slowing of global economic growth and industrial production. In this capital market environment, Covestro stock finished 2019 at a Xetra closing price of €41.45. Covestro reached its low for the year with a closing price of €37.95 on August 15, 2019. The high for the year was €55.32 on April 12, 2019.

Dividend performance



[1] Short fiscal year of Covestro AG
[2] Proposed dividend

* EURO STOXX 50: European stock index that reflects the share price performance of the 50 most important and highest revenue companies in Europe.
** STOXX Europe 600 Chemicals: Sector index put together by index provider STOXX. The STOXX Europe 600 comprises 600 companies across Europe.

In 2019, Covestro's share price was down 4.0% from its closing price of €43.18 in 2018. Including the dividend for the 2018 fiscal year of €2.40 per share paid out in April 2019, Covestro's stock performance (with dividend reinvestment) was 0.3%.

At the end of the reporting period, Covestro's market capitalization stood at around €7.6 billion based on the capital stock of 183 million shares. The average daily trading volume was approximately 1.3 million shares. In a ranking by German stock indices, Covestro therefore came in 24th in terms of trading volume and 39th in terms of market capitalization at the end of 2019.

Covestro share at a glance

		2018	2019
Average daily turnover	million shares	1.2	1.3
Year-end closing price	€	43.18	41.45
High	€	95.00	55.32
Low	€	41.90	37.95
Outstanding shares (closing date)	million shares	182.7	182.9
Market capitalization (closing date)	€ billion	7.9	7.6
Stock price development	%	–49.8	–4.0
Stock price performance (with dividend reinvestment)	%	–48.4	+0.3
Dividend per share	€	2.40	2.40

Covestro closing prices Xetra; source: Bloomberg

ADR program successful for third year

Since December 1, 2016, the American Depositary Receipt (ADR) program has granted global investors simplified access to Covestro stock. The Covestro ADR is traded over the counter in the United States under the COVTY ticker symbol. The total number of outstanding depositary receipts reached some 1.9 million at the end of 2019 (previous year: around 1.2 million) with monthly growth rates remaining high.

Moody's confirms credit rating

At the end of the first half of 2019, rating agency Moody's Investors Service, London (UK), reviewed Covestro's existing investment-grade rating and confirmed the company's rating on July 2, 2019. The Baa1 rating with a stable outlook puts Covestro in an excellent position for obtaining financing, particularly on the international debt market.

Buy recommendation from eleven analysts

At the end of 2019, Covestro was covered by 28 securities brokers. Of these, eleven analysts issued buy recommendations, and ten were neutral. Seven analysts recommended selling Covestro stock. The average share price target was approximately €46 at year-end.

Basic Covestro share information

Capital stock	€183,000,000
Outstanding shares (year-end)	182,864,685
Share class	No-par ordinary bearer shares
ISIN	DE0006062144
WKN	606214
Ticker symbol	1COV
Reuters symbol	1COV.DE
Bloomberg symbol	1COV GY
Market segment	Regulated market
Transparency level	Prime standard
Sector	Chemicals
Index	DAX

COMBINED MANAGEMENT REPORT

COMBINED MANAGEMENT REPORT OF THE COVESTRO GROUP AND COVESTRO AG AS OF DECEMBER 31, 2019

The combined management report for 2019 pertains to both the CovestroGroup and Covestro AG. The presentation of the business performance as well as the position of and the forecast for key data pertain to the Covestro Group, except where otherwise indicated. Information that applies to Covestro AG only is identified accordingly. In the Report on Economic Position, the information disclosed pursuant to the German Commercial Code (HGB) with regard to Covestro AG is provided in a separate section. In addition, the nonfinancial statement pursuant to Section 315b HGB is an integrated part of the Group Management Report. A nonfinancial statement for Covestro AG does not have to be provided at this time.

Reference to content in the Group Management Report or Consolidated Financial Statements

Reference to online content not in the Group Management Report and Consolidated Financial Statements. The content of the information to which reference is made was not audited by KPMG AG Wirtschaftsprüfungsgesellschaft.

COVESTRO GROUP AT A GLANCE

Company Profile

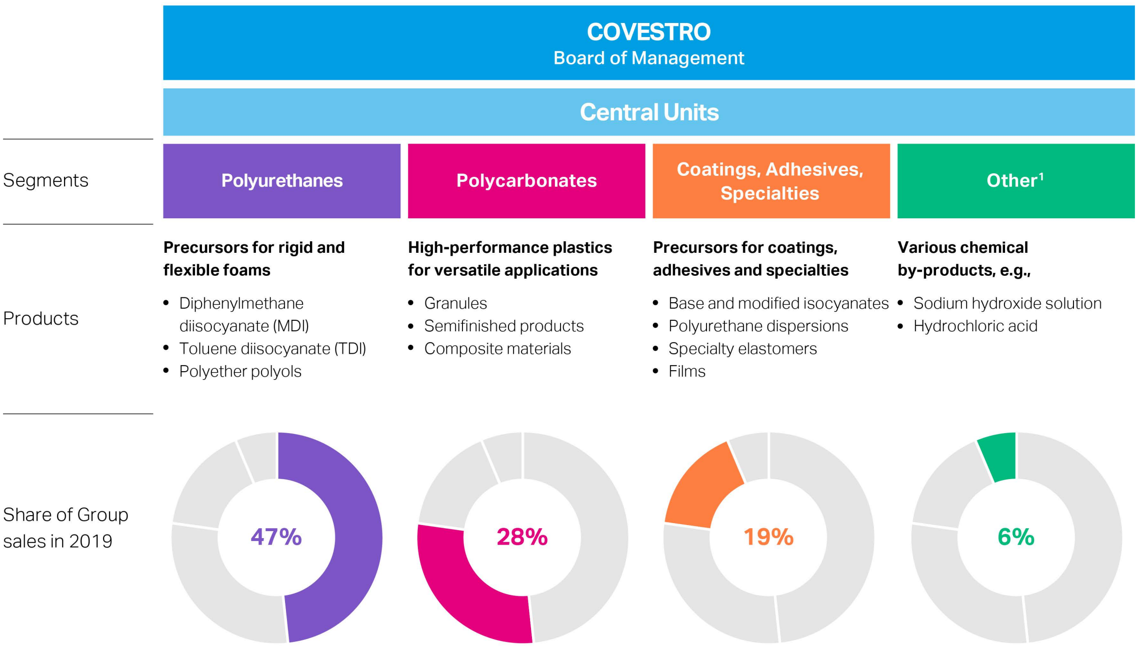
Organization and Business Model

Organization

Covestro is one of the leading global suppliers of high-tech polymer materials and application solutions developed for these materials. Covestro AG, the parent company of the Covestro Group, is headquartered in Leverkusen (Germany). It is listed on the stock exchange in Germany and has been included in the leading German index DAX since 2018. In line with its product portfolio, Covestro is divided into three operational reporting segments: Polyurethanes (PUR), Polycarbonates (PCS), and Coatings, Adhesives, Specialties (CAS). The administrative functions are consolidated within the central units. As of December 31, 2019, the Covestro Group comprised 47 consolidated companies in 22 countries in addition to Covestro AG and employed around 17,201 employees*.

See note 5.1 "Scope of consolidation and investments" in the Notes to the Consolidated Financial Statements (p. 175)

Group structure



[1] Business activities that cannot be assigned to the Polyurethanes, Polycarbonates, or Coatings, Adhesives, Specialties segments. These include, for instance, the marketing of by-products of chlorine production and use.

The Board of Management of Covestro AG manages the operational businesses and defines and pursues the corporate goals. Dr. Markus Steilemann has served as the company's Chief Executive Officer (CEO) since June 2018. Dr. Thomas Toepfer acts as Chief Financial Officer (CFO) and, additionally, has been Labor Director since January 2019. The Board of Management member responsible for Production and Technology as well as all production sites is Dr. Klaus Schäfer. Sucheta Govil joined Covestro's Board of Management in August 2019 and is responsible for the three divisions: Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties. She also took over Innovation, Marketing and Sales from Dr. Markus Steilemann, who had previously filled this position on an interim basis in addition to acting as CEO.

* The number of employees on either permanent or temporary contracts refers to full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours.

The 12-member Supervisory Board advises and oversees the Board of Management. In accordance with the German Codetermination Act, half the members of the Supervisory Board are elected by the stockholders and half by the company's employees. Dr. Richard Pott holds the office of Chair of the Supervisory Board.

See "Declaration on Corporate Governance" (p. 115)

Business model

Covestro produces precursors for polyurethane foams and the high-performance plastic polycarbonate as well as precursors for coatings, adhesives, sealants and specialty products, including specialty films. Other precursors such as chlorine and by-products like styrene are also part of Covestro's product portfolio.

The company's materials are used in many areas of modern life – the array of products ranges from insulation for refrigerators and entire buildings through laptop and cell phone cases to scratch-resistant and fast-drying vehicle coatings and film coverings for personal identification cards. Covestro therefore covers a wide variety of sectors. The company's main customers are from the automotive, construction, wood processing and furniture industries, and from the electrical, electronics and household appliances industries. The products are also used in sectors such as sports and leisure, cosmetics and health, as well as in the chemical industry itself.

Going forward, Covestro aims to position the company even more broadly, thus further reducing the product range's exposure to cyclical fluctuations. Covestro's focus in this connection is on sustainability and innovation. To this end, we closely monitor developments in our sales and consumer markets and aim to increase our customer base. Together with customers as well as with business and scientific partners, Covestro works continuously to further advance products, technologies and application solutions.

Additional information is available at: www.covestro.com/en/products

Global megatrends play a considerable role in this process: Progressing climate change, increasing mobility, a growing global population, and rising urbanization are changing the lives of billions of people. Consequently, the polymer industry will have to change. Companies like Covestro are facing new challenges and playing a part in developing innovative solutions as a result. The focus is primarily on the topics of renewable energy, energy-efficient transportation, and sustainable and affordable living.

Covestro's aim is to pave the way and support these trends with its materials. By replacing traditional materials with durable, light, more environmentally-compatible and cost-effective materials, Covestro makes significant contributions in areas such as lightweight construction in the automotive industry, increasing the energy efficiency of living spaces through the use of new insulating materials, promoting sustainable energy with specialty raw materials, and improving the shelf-life of food through better insulation along the entire refrigeration chain.

Additional information is available at: solutions.covestro.com/en/industries

Segments

Polyurethanes

In the PUR segment, Covestro primarily develops, produces and markets chemical precursors for the manufacture of polyurethane foams. These precursors are toluene diisocyanate (TDI), diphenylmethane diisocyanate (MDI) and polyether polyol, which are used in furniture production, construction and in the automotive industry. TDI-based flexible polyurethane foam is used in products such as mattresses, upholstered furniture and car seats, thus making day-to-day life more comfortable. MDI-based rigid polyurethane foam serves mainly to efficiently insulate buildings and refrigeration appliances. In doing so, it contributes to reduce energy consumption. Covestro was among the top suppliers in the global polyurethane industry in 2019. Our main competitors are BASF, Dow, Huntsman and Wanhua Chemical.

Polycarbonates

In 2019, Covestro was also one of the leading global suppliers of polycarbonates. In the PCS segment, Covestro not only produces and distributes this high-performance plastic but also works to continually improve it. Polycarbonates are extraordinarily light, transparent, shatter resistant and moldable. Available as granules, composite materials and semifinished products, manufacturers use this versatile material in a wide variety of products such as vehicles (e.g., passenger compartment and vehicle lighting), buildings (e.g., roof structures), electrical and electronic devices (e.g., cords and laptop cases), as well as for medical equipment. Our main competitors include Lotte, Mitsubishi Chemicals, Saudi Basic Industries Corporation (SABIC) and Teijin.

Coatings, Adhesives, Specialties

The CAS segment develops and produces substances that make finished products more aesthetically appealing and durable, and therefore increases their value. The focus is on both aliphatic and aromatic isocyanates, on their derivatives as well as on polyurethane dispersions. These are required for the production of coatings, adhesives, sealants and specialty products. The latter comprise specialty elastomers, high-quality films and precursors for cosmetics, textiles and medical products. These materials serve to protect, bond, seal or functionalize a wide variety of surfaces. The main areas of application are automotive and transportation, infrastructure and construction, wood processing and furniture. With more than 2,700 products and some 4,000 customers across the globe in the CAS segment, Covestro was among the world's top suppliers in the reporting period in this area as well. Our main competitors are DSM, Evonik Industries, Vencorex Chemicals and Wanhua Chemical.

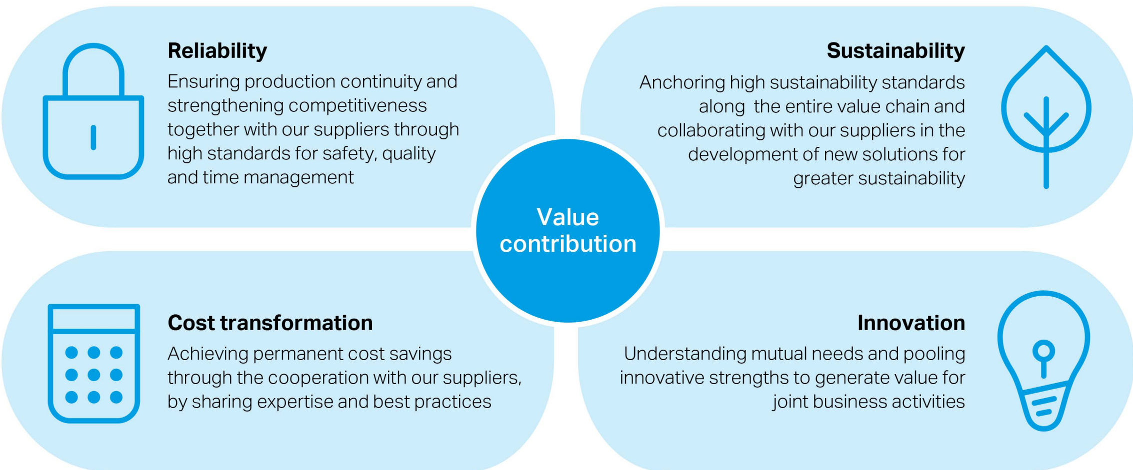
Procurement

Procurement at Covestro is centrally steered and managed by the Procurement unit. Procurement is responsible for the timely global supply of goods and services to all divisions of the company at the best possible market conditions. This ensures that our Group's high quality standards are met. Furthermore, Procurement makes sure that Covestro's ethical and environmental principles are upheld throughout the entire procurement process. The basic tenets of our procurement policy are set forth in a directive that is binding on all employees throughout the Covestro Group.

The objective is to generate a competitive advantage for Covestro and make a decisive contribution to the overall value. In doing so, Covestro is guided by four strategic principles: reliability, sustainability, cost transformation and innovation. In addition, Procurement promotes the digitalization of purchasing processes and systems in the interest of improving the efficiency and effectiveness of the procurement process for Covestro and its suppliers.

See "Sustainability in Supplier Management" (p. 66)

Strategic principles in procurement



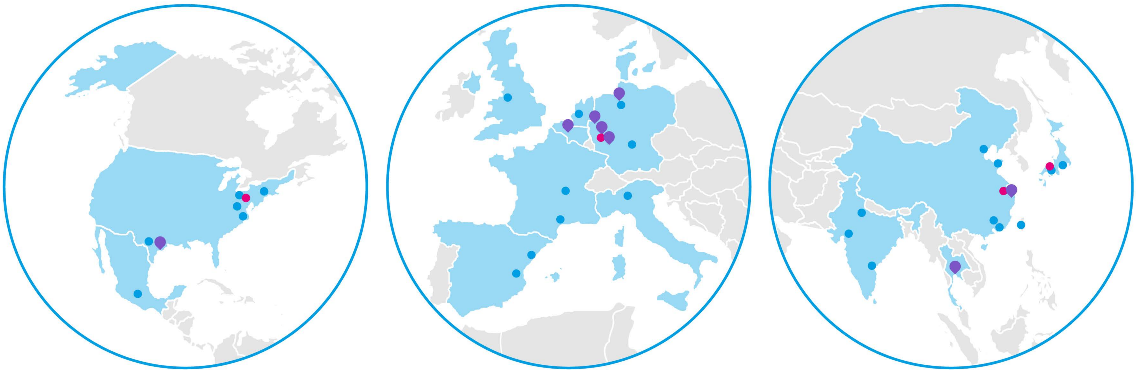
In 2019, goods and services were procured from some 15,000 suppliers (previous year: some 15,500) in 72 countries (previous year: 71) for approximately €9.4 billion (previous year: €10.1 billion). Distribution of purchasing volumes was balanced across the regions.

The main precursors for our products are petrochemical substances such as benzene, toluene, propylene/propylene oxide, phenol and acetone – which collectively account for approximately 35% of our purchasing value. Moreover, the operation of our production facilities requires large amounts of energy, which we primarily procure from external sources and in the form of electricity and steam. We endeavor to procure critical raw materials from within the Group or through joint ventures in order to reduce the dependency on external supply sources. To name just two examples: Covestro produces some chlorine in-house and procures propylene oxide through a joint venture. Apart from raw materials and energy, operations, logistics and investment projects also require technical goods and services. These activities are also centralized by Procurement to add value to Covestro. We regularly monitor the sustainability and quality of our suppliers and ensure that they comply with internal and external standards.

Production sites and R&D facilities

Covestro operates production sites and research and development (R&D) facilities for various product groups throughout the world. The following chart shows the geographical distribution of Covestro's 33 production sites and four R&D facilities.

Covestro production sites and R&D facilities[1]



NAFTA[2]

- **Baytown (USA)** PUR | PCS | CAS
- Santa Clara (Mexico) PUR | CAS
- Channelview (USA) PUR
- New Martinsville (USA) PUR | CAS
- Newark (USA) PCS
- South Charleston (USA) PUR
- South Deerfield (USA) CAS
- Pittsburgh (USA)

EMLA[3]

- **Antwerp (Belgium)** PUR | PCS
- **Brunsbüttel (Germany)** PUR
- **Dormagen (Germany)** PUR | CAS
- **Krefeld-Uerdingen (Germany)** PUR | PCS
- **Leverkusen (Germany)** CAS
- Bomlitz (Germany) CAS
- Markt Bibart (Germany) PCS
- Fos-sur-Mer (France) PUR
- Romans-sur-Isère (France) CAS
- Filago (Italy) PCS
- Rotterdam (Netherlands) PUR
- Barcelona (Spain) CAS
- Tarragona (Spain) PUR
- Cheadle Hulme (United Kingdom) CAS
- Leverkusen (Germany)

APAC[4]

- **Shanghai (China)** PUR | PCS | CAS
- **Map Ta Phut (Thailand)** PCS | CAS
- Guangzhou (China) PCS | CAS
- Shenzhen (China) CAS
- Tianjin (China) CAS
- Ankleshwar (India) CAS
- Cuddalore (India) CAS
- Greater Noida (India) PCS
- Niihama (Japan) PUR | CAS
- Sakai (Japan) CAS
- Linyuan (Taiwan) PUR
- Changhua (Taiwan) CAS
- Shanghai (China)
- Amagasaki (Japan)

Sites: ● Production site with world-scale facilities ● Production site ● R&D facility

Segments: PUR Polyurethanes PCS Polycarbonates CAS Coatings, Adhesives, Specialties

[1] Excluding PCS sheets business and PUR systems house sites
[2] NAFTA: United States, Canada and Mexico region
[3] EMLA: Europe, Middle East, Africa and Latin America (excluding Mexico) region
[4] APAC: Asia and Pacific region

Covestro has 33 production sites located in Europe, North America and Asia, 8 of which have world-scale facilities. The latter are large-capacity production facilities that serve in particular to ensure that customers around the world are supplied reliably and efficiently. We operate additional plants in selected countries to manufacture polyurethane precursors and products for the Coatings, Adhesives, Specialties segment. Moreover, we operate production plants in selected countries where we compound polycarbonate resins to meet specific customer requirements.

Thanks to the integration of upstream production stages (backward integration), e.g., in its own production of chlorine, Covestro has continually optimized value creation. In addition, Covestro has put in place wide-ranging initiatives to secure and steadily improve performance in the areas of safety, costs and plant availability.

We invest continuously in our global production network in order to maintain our production facilities and their infrastructure, to optimize manufacturing processes, and to expand capacities in line with market developments. To do so, Covestro relies on advanced and environmentally friendly production processes and continually optimizes its technologies.

See “Cash flows from investing activities” (p. 89)

Covestro conducts research and development at three major centers in Germany, North America and China. Customer-facing applications are generally developed in the relevant regions, while global, fundamental research and technology development is mainly conducted in Germany. We also operate a R&D facility in Japan that concentrates on the Japanese market. Covestro’s global presence allows us to respond to regional trends and customer requirements.

Marketing and sales

Industry-specific marketing and sales teams are responsible for building potential business with prospective and existing customers and continually analyzing markets and trends. Each operational reporting segment markets and distributes its own products through its own sales organization as well as through trading houses and local distributors. Major customers with global operations are an exception to this, as these are serviced directly by our key account managers. Marketing is conducted in close cooperation between the marketing, sales and application development teams. Chemical by-products such as sodium hydroxide solution are marketed primarily outside of the operational reporting segments. One exception is the by-product styrene, which is marketed directly by the PUR segment.

The central management of marketing activities in the Central Marketing function, which was reorganized in 2019, unlocks opportunities for us to tailor our products and services worldwide even more specifically to our customers’ needs. The division provides support to operations with new marketing approaches, digital applications and innovative services. This allows us to continually improve workflows in marketing and marketing communications. We conduct extensive dialogue with our customers to determine their needs in order to best leverage the opportunities emerging from current trends and developments, such as digitalization, sustainability and the circular economy, and to increase value.

Three regional Supply Chain Centers for the EMLA, NAFTA and APAC regions support efficient order processing by providing assistance to our customers and processing sales orders – from order acceptance through shipment planning, to invoicing and complaint acceptance. Customer-oriented support in the individual regions allows us to process orders especially quickly and seamlessly. Covestro makes use of channels such as e-commerce platforms for receiving and processing orders. Our customers can place orders and check the status of their orders at any time in the Order@Covestro self-service portal.

The transportation of our products to customers is handled by logistics service providers that are selected and evaluated according to stringent safety, environmental and quality criteria. Alongside the protection of people and the environment, delivery reliability is particularly important to us. The preferred mode of transportation is rail or intermodal – in other words using a combination of different modes of transportation. When selecting the mode of transportation, we also consider resource efficiency and seek to reduce associated CO_2 emissions in particular. Customers are supplied from close-to-production warehouses, wherever permitted by transportation times and delivery reliability. In the case of longer distances and depending on the reliability of the mode of transport, our products are temporarily stored in regional distribution centers and then dispatched from there with shorter delivery times.

In order to ensure a high level of customer satisfaction, our foremost quality target is avoiding errors in all of our processes. Customer satisfaction is regularly gauged and analyzed worldwide in a global management system. In doing so, we consider customer satisfaction analyses and supplier assessments. Furthermore, we request feedback from our customers from which we derive corrective and preventive measures for the purpose of further increasing quality and customer satisfaction and lowering the error rate and the incidence of complaints. We modified our methodology for measuring and analyzing customer complaints this year, which also led to a change in the baseline for 2018 from 6.72 complaints per 1,000 deliveries to 5.15. In the reporting period, we only received 4.57 customer complaints per 1,000 deliveries, a reduction of 11%. In our effort to improve and accelerate complaint processing, we also hired additional staff, trained employees on how to improve the effectiveness of responses to customers, and surveyed customers on their experience with how their input was handled.

Strategy

Principles guiding our actions

Purpose and mission

The world is facing tremendous global challenges, including advancing climate change, increasing mobility, a growing global population, and rising urbanization. Covestro is facing these challenges, uniting business success with sustainability. The goal is to realize Covestro's purpose: to make the world a brighter place.

We aim to promote innovation and growth with profitable products and technologies that benefit society and reduce the impact on the environment. This is our mission. In pursuing it, we rely on technologies that reduce energy consumption and emissions in our production processes. And we are replacing traditional materials such as glass and metal, which are manufactured less sustainably or have a less sustainable life cycle, with products and plastics we develop. We accomplish this by thinking ahead and, instead of fossil resources, develop alternative building blocks for our chemicals that are either omnipresent or far more sustainable.

The targeted development represents a key step in the path toward achieving an economic system that focuses on circularity. For Covestro, the circular economy primarily means finding efficient solutions so that products and materials are returned to the value cycle at the end of their use phase – as a whole, in the form of polymers or in molecular form. Throughout the process, we consider our entire portfolio to create new value from products and materials.

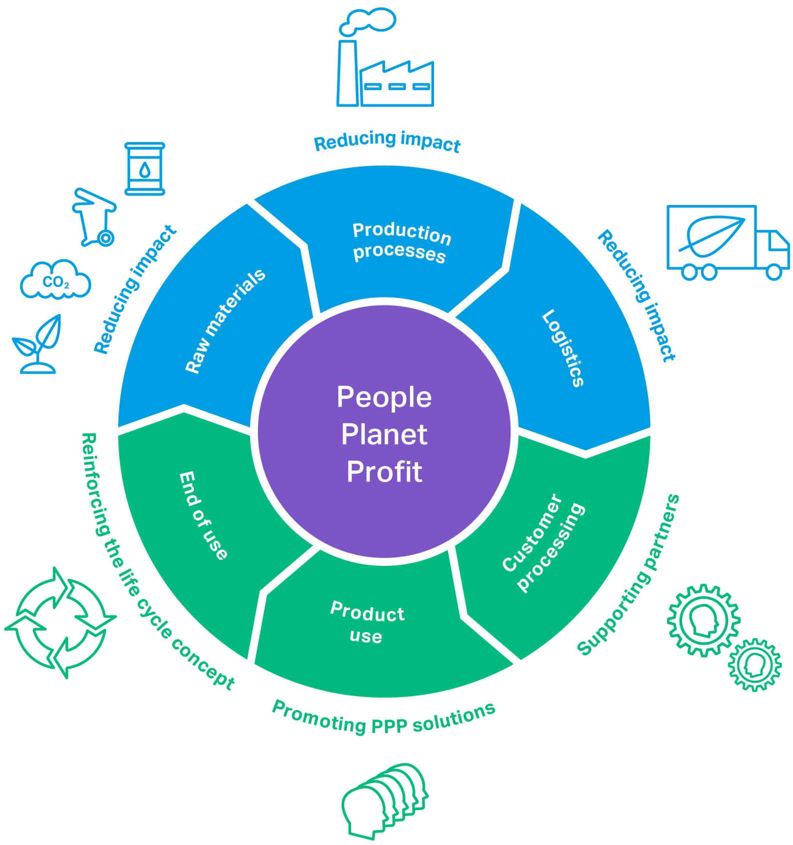
Therefore, we will conduct in-depth research into various recycling options in the coming years, based on our experience in chemistry and our innovative strength. Our goal is to bring these to market readiness as soon as possible. In addition to mechanical recycling, we are promoting the development of chemical and thermo-chemical procedures.

In this regard, we constantly pursue the goal of utilizing carbon within an optimally closed loop. In doing so, we aim to reduce CO_2 emissions and the use of resources throughout the entire value cycle. We are confident that our focus on circularity will produce long-term economic and environmental benefits. Chances for us arise, for example, from new business models, additional sales opportunities and close cooperation with our customers. Moreover, this strategic focus underscores our commitment to creating sustainable solutions for meeting the challenges of the future.

See "Circular Economy" (p. 72)

In keeping with our purpose of making the world a brighter place, we want to make an equal contribution to increasing Covestro's overall value at social, environmental and economic levels. Our decisions and our actions always take into account the three Ps of sustainability: people, planet and profit. We are oriented toward a positive impact on at least two of the three Ps, while at the same time ensuring no harm is done to any of them. Covestro considers every decision, every action we take and the resulting consequences holistically, that is, throughout the entire value chain or value cycle.

Covestro's sustainability formula



Corporate values, corporate culture and corporate policies

Covestro is proud of its corporate values, summarized as C^3: curious, courageous and colorful. Curiosity triggers deeper thinking and allows us to create innovative and unexpected solutions for our customers. Courage helps us identify opportunities where others see limitations. Diversity promotes employee engagement and creativity; multiple viewpoints make us successful. These values guide all of the Group's employees and are reflected in their daily thoughts and actions. We have also defined Covestro conduct guidelines in order to make the C^3 values a more integral part of our employees' work life.

The corporate culture is a key strategic pillar for Covestro and is based on the company's values and conduct guidelines. Moreover, a culture firmly rooted in the company enables the implementation of the strategy, therefore enabling the company's long-term success.

The corporate culture is influenced by all employees and in particular by the managers who are responsible for setting a good example through their conduct and embodying the culture. The expectations for this transformational leadership are clearly defined: We want values-based leadership driven by mindset as well as corporate values that enables employees to reach their fullest potential and channel it into achieving success for the company. We also ensure that our employees possess the necessary decision-making authority and that the work and safety conditions in place meet our high standards.

The key principles guiding our actions have also been laid down in six policies applicable throughout the Covestro Group. These provide our employees with guidance in the areas of value creation, sustainability, innovation, human resources, HSEQ (Health, Safety, Environment and Quality) and compliance. The standards these contain are mandatory for all employees worldwide and provide the framework for all of our activities. Where required, further detail is provided with more specific guidelines on particular topics.

Additional information is available at: www.covestro.com/en/sustainability/service-downloads/policies-commitments

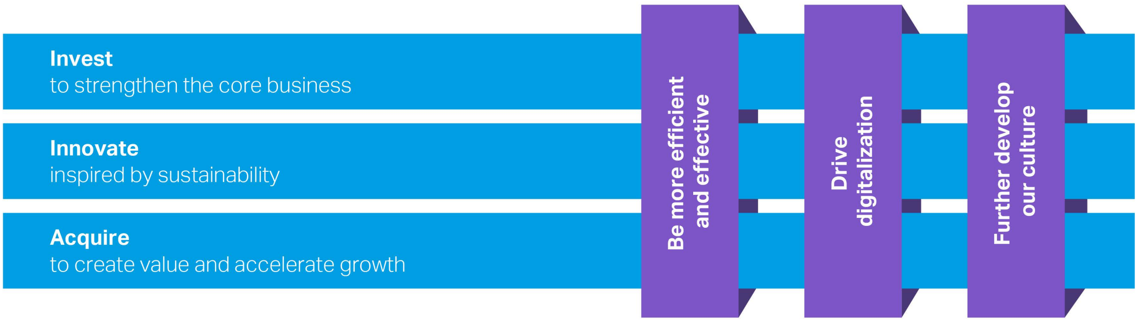
Strategic goals and activities

Group strategy

"To make the world a brighter place" is our overarching goal in line with our purpose. To this end, Covestro provides innovative products, technologies and application solutions. Our activities are aligned with the UN Sustainable Development Goals (SDGs) in support of global progress in environmental, economic and social issues. Experts agree that these goals have significant economic potential and could lead to profound changes and above-average growth worldwide in the industrial sectors important to Covestro.

Our current strategy was developed with a view primarily to taking full advantage of business opportunities resulting from global megatrends and sustainability issues. This is all part of our efforts to continue growing profitably in the years to come and to exceed global economic growth rates overall. We intend to achieve this using six strategic pillars.

Strategic pillars



Investing to strengthen the core business

Covestro expects to continue to see strong growth in its core markets and plans to optimally leverage this development to our benefit. We will therefore further expand production capacities in our core lines of business and, to this end, invest in excess of the depreciation level in the years to come. As a rule, this applies to production facilities across all product groups and at all major sites. We are adding the skilled staff and resources required to ensure optimal technical implementation of corresponding projects.

Innovating to promote greater sustainability

Sustainability is a central concern, and it shapes our activities along the entire value chain. We consider sustainability particularly as an economic opportunity benefiting all interest groups. In the years to come, we intend to focus our research and development even more on sustainability issues such as electromobility as well as energy- and cost-efficient construction. Accordingly, we plan to invest even more heavily in R&D projects oriented toward the SDGs and the requirements of the circular economy.

See "Sustainability strategy" (p. 44) and "Circular Economy" (p. 72)

Acquiring to create value and accelerate growth

We are actively reviewing acquisition options in order to strengthen our portfolio. Acquisitions represent another way to participate in the rapid market growth that we anticipate in the years to come stemming from issues related to the future and sustainability. We carefully evaluate potential acquisitions to determine – with regard to our stockholders – whether they increase Covestro's enterprise value and the impact they may have on other stakeholders. Furthermore, acquisitions must also suit our existing lines of business, our entire company and our corporate culture. Our acquisition strategy also includes investing in start-ups. In this respect, we also ensure that we can contribute to the development of the company, which extends beyond making a financial investment.

See note 5.1 "Changes in the scope of consolidation" in the Notes to the Consolidated Financial Statements (p. 175)

Becoming more efficient and effective

To increase effectiveness and efficiency throughout the entire company, Covestro rolled out a Group-wide performance program in 2018 entitled Perspective. The program's primary objectives are to further refine work methods and cross-divisional processes, in addition to continually improving our competitive and cost position. These measures are expected to generate a long-term cost savings of approximately €350 million by 2021 at the latest, which in turn will be used to limit an increase in operating costs.

Driving digitalization

With an extensive program, we aim to increasingly take advantage of the opportunities arising from digitalization. To achieve this goal, Covestro anchors digital technologies and work activities in production, along the supply chain, in research and development, in administrative functions and at all points of contact with the customer.

See "Use of digital technologies" (p. 49)

Further developing our corporate culture

In the coming years we intend to improve our corporate culture in such a way that it bolsters our efforts to successfully address future trends and meet market requirements. The purpose here is to tap into our internal potential to the fullest extent and reach our business goals by more intensively promoting innovative ideas and short chains of command, for example. Influenced by the responsible conduct of our managers, our culture provides our employees with the framework for their day-to-day activities and ensures that all employees internalize our C^3 values by integrating Covestro's newly defined conduct guidelines into their everyday activities. In this way, we aim to put every employee in a position to be able to achieve their best performance.

Strategy of the individual segments

Polyurethanes

In the years to come, demand for polyurethanes is expected to grow at an above-average rate compared to the global economy. In the Polyurethanes segment (PUR), we aim to provide the precursors needed to tap into this development.

The construction industry is one of the strategic industries where we are already strongly represented, and we intend to further expand this position. At the same time, we plan to take into account the growing need for sustainable solutions. In the future, our range of products should satisfy the demand for energy-efficient and affordable living spaces, mainly in the emerging economies. Considering the SDGs, there are some not yet fully developed segments that also warrant our attention – such as wind energy, where we provide materials for generation.

The PUR segment manufactures largely standardized products and the focus there is thus on increasing efficiency through cost management as well as product and process innovations. To achieve this, we are continually evaluating the potential for optimizing facilities and sites. In addition, we plan to develop new business models and improve existing ones.

Polycarbonates

New forms of mobility call for innovative solutions. In the Polycarbonates segment (PCS), we are continually improving our product portfolio to address these new requirements. After all, materials with low weight, high-quality optics, and transparency are particularly in demand in the automotive industry, such as in the promising electromobility market.

We intend to further increase the share of stable-margin business by focusing on the applications with more stringent materials requirements, particularly in the automotive, health and electronics/LED areas. Furthermore, through innovations such as fiber-reinforced composite materials, we plan to consolidate the technological position of the PCS segment and generate even more growth in differentiated areas. With its distinct application expertise and global alignment, the segment should grow at a higher rate than that of the global economy.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties (CAS) segment specializes in manufacturing precursors for coatings and adhesives that are used in sectors such as the automotive, construction and furniture industries. We aim to secure and further build on our strong position. Of particular importance in achieving this are consistent cooperation along the entire value chain, the efficient expansion of our capacities and customer-oriented product development. Furthermore, we are working on products that are as environmentally friendly as possible, do not require the use of solvents and utilize alternative raw materials such as plant biomass.

Our specialties business produces high-quality films, specialty elastomers and precursors for cosmetics, textiles and medical products. As in past years, Covestro also plans to grow at an above-average rate in this area thanks to our superior technological knowledge and our expertise in chemical formulations. In this way, we aim to achieve new and profitable application areas for our products.

Sustainability strategy

With increasing urgency, some segments of the public are demanding sustainable solutions to acute global problems such as advancing climate change. People expect industry to adapt business activities and ensure they are set up to be sustainable. On the one hand, this trend will increase demands on our business practices. On the other hand, it also unlocks new business opportunities. We intend to master both challenges while also equally taking into account all three dimensions of sustainability: people, planet and profit.

Leveraging business opportunities

We are continually replacing conventional products with sustainable solutions. To this end, we developed an assessment methodology that was integrated into our innovation portfolio management system this reporting period. This methodology is now applied to all new projects without exception and enables us to identify all kinds of approaches, including unusual and novel ones, that help our products and technologies contribute to meeting the SDGs. Examples are solutions such as solar dryers or sanitation systems for developing regions.

See "Innovation" (p. 49) and "Inclusive Business" (p. 75)

We intend to also focus particularly on the necessary conditions for facilitating innovation in a number of key strategic issues. One example is the circular economy, which will bring major opportunities for the plastics industry in the long term, as well as harboring risks. We will identify particular action items to focus on advancing further in line with a strategy program launched in the 2019 reporting period.

See "Circular Economy" (p. 72)

Optimizing business practices

Continually maintaining our sophisticated existing management systems is a key priority for garnering societal acceptance for the continuation of our business activity (license to operate). Examples are safety, environmental protection and product stewardship systems. We also proactively address new and increased requirements in various areas and work on continually improving Covestro. A particular focal point in the year under review was due diligence on human rights. We also made progress on a systematic approach to water risks by implementing our risk-based water approach at all sites exposed to major risks relating to water availability, quality or accessibility.

See "Environmental Protection" (p. 63) and "Due diligence on human rights" (p. 74)

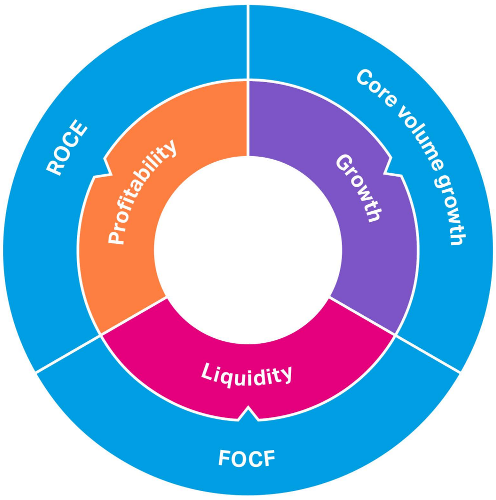
Management

Covestro's management system is aligned with long-term, profitable growth and continuous value creation. The Board of Management, the main decision-maker for the company, is responsible for our global business and approving the planning derived from our corporate strategy. In order to plan, manage and monitor the development of our business, we use steering parameters which enable the company's business performance to be evaluated in a comprehensive and holistic manner. In addition, the Board of Management uses defined sustainability goals and selected nonfinancial performance indicators to govern the Group's sustainable orientation.

Business performance

The Covestro Group assesses business performance using key management indicators in the areas of growth, liquidity and profitability.

Covestro's key management indicators



Growth of the Covestro Group is measured in terms of the development of core volume growth*. In contrast to sales, this indicator is less influenced by raw material prices or currency effects.

The ability to generate a cash surplus is measured by the free operating cash flow (FOCF). FOCF is an indicator of our company's capacity to finance itself and of its liquidity, and corresponds to the operating cash flow less the cash outflows for additions to property, plant, equipment and intangible assets. A positive FOCF serves to pay dividends and interest and to repay debt.

The return on capital employed (ROCE) is the indicator used to assess the profitability of the Covestro Group, measuring the return the company achieves on the capital it uses. If ROCE exceeds the weighted average cost of capital (WACC), i.e., the minimum return expected by equity and debt capital providers, the company has created value. ROCE is calculated annually at the end of each fiscal year.

Income after income taxes plus financial result, income tax, and depreciation and amortization (EBITDA) is the other indicator used to assess the operating profitability of Covestro and its reporting segments during the year.

* Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of precursors and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.

These management metrics also come into play in the Group's bonus system, which applies uniformly to all staff from the Board of Management to employees under collective bargaining agreements. The three areas of growth factors, liquidity and profitability each account for one-third of the final assessment and bonus calculation formula. As a result, all employees whose personal efforts contribute to Covestro's overall positive performance can share in the company's success.

Sustainability

We believe that a major factor in Covestro's success is doing business sustainably. This requires us to integrate sustainability principles into all of our business activities on the one hand, while ensuring that we are sufficiently addressing the issues of greatest relevance to us and our stakeholders on the other hand. Sustainability issues are therefore also integral to corporate governance.

Management and governance

The Sustainability unit advises the divisions by sharing its extensive technical expertise on topics such as life cycle assessment (LCA), human rights and the UN Sustainable Development Goals (SDGs). A network of sustainability officers guarantees access to this expertise for all divisions and all regions in which we operate.

Occupational health and safety and environmental protection are monitored using a Group-wide management system. Support is provided by a centralized team of experts with global responsibility for these issues.

See "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" (p. 59)

At least once a year, sustainability and health, safety, environment and quality (HSEQ) are topics discussed at length by the Board of Management. The company's management monitors success, sets priorities and adjusts the allocation of resources when necessary.

Our principles are anchored in internal company policies. They provide concrete specifications on the important issues of value creation, sustainability, innovation, people, HSEQ and compliance. Binding, Group-wide directives that support meeting HSEQ targets are accessible to all employees in an internal Group database. Compliance with these directives is verified during annual internal audits. In addition, issues and action plans as well as target attainment are monitored in a management review. Global and local operating procedures for the relevant processes implement the content of company policies and directives in all operating units. Binding ethical and legal principles are anchored in our Corporate Compliance Policy (Directive). This policy includes important guidelines on fair and respectful working conditions and on fighting corruption. Covestro has implemented a reporting process so that employees can report potential compliance violations anonymously. The contents of the Corporate Compliance Policy are conveyed regularly through targeted communication measures and employee training sessions.

Material topics

Particularly important issues are coordinated Group-wide. We regularly conduct a materiality analysis to identify the sustainability issues most important to Covestro. This process takes into account feedback and opinions from external and internal stakeholders. These results are reviewed in line with our sustainability approach.

See "Disclosures on Sustainability Reporting" (p. 145)

We analyzed and refined the process for determining and updating the material topics in the reporting period. Our objective is to more closely dovetail this approach with existing processes in other divisions such as Strategy and Risk Management to increase the relevance of the results. The new process will be implemented for the first time in 2020.

The issues identified in the materiality analysis in the previous year were reviewed by an internal committee and modified, where necessary, in the reporting period. This committee was composed of representatives of the Sustainability, HSEQ, Accounting and Compliance divisions.

The review indicated that some identified issues had become more relevant over time. No completely new issues were identified.

The circular economy has become increasingly important in public discussions. When the program on this topic was launched in early 2019, specific action items were identified and approved by the Board of Management that will provide Covestro's strategic direction on this issue.

See "Circular Economy" (p. 72)

The importance of human rights due diligence (HRDD) has increased further in the reporting period. In 2019, we therefore developed a project for establishing a Group-wide framework for HRDD. Covestro plans to systematically implement the recommendations stemming from this project in the coming years. The goal is to further stress the importance of this significant issue in the Group and, where necessary, build the capacity to more quickly address the requirements that will arise in the future.

See "Due diligence on human rights" (p. 74)

As in the previous year, the following issues were rated as having high or very high relevance for internal and external stakeholders:

Innovative solutions for addressing climate change (mitigation and adaption)

The advance of climate change is rising in prominence in public discussions, but the basic questions and challenges have not changed as compared with the previous year. In conjunction with our customers, Covestro continues to work full speed ahead on developing new and refining existing solutions to protect our climate and help people adapt to climate change.

See "Innovation" (p. 49)

Innovative solutions that contribute to the SDGs

As early as 2017, we began aligning our innovation activities more strongly with the SDGs. We validated the assessment methodology we developed, and integrated it into our innovation portfolio management system in the reporting period. It is now applied to all new projects without exception.

See "Innovation" (p. 49)

Product stewardship

Our tried-and-tested system for fulfilling our responsibility regarding safe handling of our products is presented in the "Product stewardship" section.

See "Product Stewardship" (p. 69)

Occupational health and safety

As a company in the chemical industry, we have a special responsibility with respect to safety and health. We manage this responsibility with our integrated HSEQ management system.

See "Safety" (p. 60) and "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" (p. 59)

Environmentally efficient operations

The issue of environmental protection at our production and operation sites is another integral part of our integrated HSEQ management system.

See "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" (p. 59)

Sustainability in the supply chain

For many years, we have been continually refining and expanding our processes to ensure a sustainable supply chain.

See "Sustainability in Supplier Management" (p. 66)

Operationalization

In 2016, we set targets for key nonfinancial topics. We report on our progress in the relevant sections:

- Our project portfolio for research and development is aligned with the SDGs. By 2025, 80% of project expenditures for research and development will go toward areas that contribute to reaching these goals.
  See "Innovation" (p. 49)

- All of our suppliers representing a regular purchasing volume of more than €100,000 per year comply with our sustainability requirements.
  See "Sustainability in Supplier Management" (p. 66)

- Specific greenhouse gas emissions per metric ton of product manufactured are expected to be reduced by 50% from the 2005 benchmark by 2025.
  See "Environmental Protection" (p. 63)

- We want ten million people in underserved markets to benefit from our solutions by 2025. The goal is to improve their standard of living primarily through affordable housing, sanitation and food security.
  See "Social Responsibility" (p. 74)

- Our goal is to extract the maximum benefit from carbon. Increasing carbon productivity enables us to create more value with fewer carbon-based fossil resources. In addition to our efforts toward improving energy efficiency in our production processes, we consider our circular economy activities to be a key factor in this regard.
  See "Circular Economy" (p. 72)

Innovation

Innovation is a core element of Covestro's strategy and is part of our identity. Our understanding of innovation is broadly defined: We do not rely on traditional research and development alone, but rather also on the great potential for creativity throughout the entire company. We encourage all employees to promote innovation at Covestro.

In order to maintain and reinforce our position in the global arena, we work tirelessly at all levels to develop new products, improve established ones, and optimize manufacturing and processing procedures. Application areas, business models and business processes are also subject to ongoing review. We draw on decades of experience and demonstrable success in these endeavors.

Innovation management

By managing innovation systematically throughout the Group, we ensure that our ongoing and planned activities and our project pipeline always satisfy the needs of our customers as well as user and consumer industries. Covestro uses a wide variety of tools to achieve this: For example, we use a standardized method to assess every research and development project and incorporate the resulting findings into ongoing and future projects. The global, digital platform idea.lounge is available for discussing and working on ideas from all parts of the company. Our company system for submitting suggestions, which is used to manage and track suggestions for improvement, was overhauled from the ground up; the new digital platform has been available to employees in Germany since June 2019.

At Innovation Celebrations, we recognize employee projects from around the world that reflect our broad understanding of innovation. The awards serve to recognize innovative ideas for products and applications, production and production processes, business models and commercialization, internal business processes, as well as patents and intellectual property.

We seek to align our research and development (R&D) portfolio with the UN Sustainable Development Goals (SDGs) and by 2025 aim to have 80% of project expenditures for research and development go toward areas that contribute to reaching these goals. To this end, we implemented a Covestro-wide assessment process for existing and new innovation projects that will be applied to the entire R&D project pipeline by 2021.

In fiscal 2019, our R&D expenditure amounted to €266 million (previous year: €276 million). As of December 31, 2019, 1,217 employees* worldwide (previous year: 1,123) worked in R&D, most of them at the three major R&D centers in Leverkusen (Germany), Pittsburgh (United States), and Shanghai (China).

Use of digital technologies

Covestro is committed to pursuing digitalization along with the associated new opportunities for the entire chemical and plastic value chain. Covestro utilizes the opportunities arising from digitalization with a comprehensive strategic program and primarily the intelligent use of data, thus setting new standards in cooperation with customers. We set up a senior-level Digital Governance Body to manage the Covestro-wide portfolio of digitalization projects. This decision-making body will directly implement the strategic program in a target-oriented way. We increasingly anchor digital technologies and work methods in production, along the supply chain, in research and development, in administrative functions and at all points of contact with customers as well as for developing new business models. The focus is on the specific benefit for our customers. In Production and Technology, Covestro conducts a program called "OSI2020" for the digitalization of technical, operational and maintenance-related activities.

* The number of employees on either permanent or temporary contracts refers to full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours.

Covestro recognizes digitalization as a comprehensive ongoing development that includes various priorities and advances at different speeds. We have already used data analysis for a number of years for production processes and continually invest in employees and infrastructure to systematically promote digitalization – thereby improving the efficiency of work and production processes using modern data processing and the intelligent interconnection of systems. A key element of the digitalization strategy was launched when the Covestro Solution Center, a forward-looking portal for our products, went online. This includes new, digital channels of communication with our customers. We are additionally working on the vision and implementation of a comprehensive, customer-centered effort to digitize the entire supply chain.

In 2019, we built on our in-house developed digital trading platform Asellion to launch the Covestro Direct Store, which customers can visit to purchase our standard products. Selected business entities have already entirely or partially shifted their sales to the platform, which is now integrated into the SAP processing system. Meanwhile, we are cooperating closely with customers in other industries on a global scale. The goal of this collaboration is to implement the customers' requests with regard to the design and functionality of our digital sales channels.

In this connection, Covestro is also continuing to ramp up the continuing digitalization of research and development. Key initiatives here are the installation of a supercomputer at the Leverkusen site and the establishment of a company-wide data analysis platform in R&D.

Strategic partnerships and collaborations

To remain innovative, Covestro not only closely cooperates with its customers around the world, it also collaborates with partners from academia and industry under the banner of open innovation, which is of great strategic importance for the company. Bilateral cooperations and collaboration in large, publicly funded consortiums characterize the partnerships with research facilities and universities as well as with companies along the value chain.

Covestro maintains long-standing and strategic partnerships with various universities. This includes cooperating with renowned partners throughout the world, such as RWTH Aachen University (Germany), Tongji University in Shanghai (China), and Carnegie Mellon University in Pittsburgh (United States).

Academic collaborations

Overview of Covestro's top three university cooperations

University cooperation

Important tool for talent recruiting and implementation of innovation strategy

Effectiveness and efficiency of R&D

Region	University	Focus areas:	Examples:
EMEA	RWTH Aachen University	• Process development • Basic research	• Chemical catalysis in various projects (CAT Catalytic Center, QuinCAT) • Electrochemistry (endowed professorship)
NAFTA	Carnegie Mellon University	• Digital technologies and machine learning • Application development	• Academia start-up cooperation • Open innovation competitions (Pittsburgh Penguins Make-a-thon, Hackathon)
APAC	Tongji University	• R&D projects in electric-vehicle batteries, 3D printing and sustainability • Start-up incubation and talent development	• Commercialization of developments and industry/academia events • Open innovation competitions (Make-a-thon, Hackathon)

On the industrial side, we are working with start-up companies and established partners that support us in our efforts to develop alternative, non-fossil resources and biobased processes. A prerequisite for making biobased raw materials usable is their direct contribution to resource optimization compared to traditional processes. In 2019, we therefore acquired an equity investment in the Erlangen-based German start-up Hydrogenious LOHC Technologies GmbH in an effort to actively promote the development of an international infrastructure for hydrogen as an alternative source of energy.

Our innovation project aimed at manufacturing biobased aniline is another example of this. We are now able to manufacture the basic chemical aniline, which is important for Covestro, on the pilot plant scale from biomass, rather than following the traditional method using benzene, a raw material based on crude oil. This procedure is the result of cooperation between University of Stuttgart (Germany), the CAT Catalytic Center at RWTH Aachen University (Germany), and Bayer AG, Leverkusen (Germany).

In addition to making alternative biobased raw materials usable in order to improve resource efficiency and expanding the CO_2 technology platform to close the carbon cycles, electrochemical processes represent a good starting point for visionary, circular economy solutions aimed at the energy-efficient manufacturing of basic chemicals. In pursuit of this goal, Covestro collaborated with RWTH Aachen University (Germany) and the Jülich Research Center (Germany) to establish the ELECTRA industrial electrochemical competence center.

Alliance Management, a central unit at Covestro, provides support throughout the Group in planning and implementing cooperations and networks and for positioning the issues of innovation and sustainability at the state, federal and European policy levels.

Innovation in the individual segments

Polyurethanes

In the Polyurethanes (PUR) segment, we are continually working on innovating polyurethane industry products with newly developed materials and process improvements throughout their entire life cycle – particularly core applications comprising rigid and flexible polyurethane foam, and composite materials. Our customers in the household appliances, furniture and automotive industries along with many other sectors can rely on our modern technologies and the highly motivated experts in our global network for developing their applications. The large number of new patent applications for our innovative technologies underscores Covestro's leadership role in the collaboration with other companies in the polyurethane industry.

Furthermore, we develop sustainable, circular approaches to flexible foam applications by working with industrial and scientific partners to continually improve the recycling of flexible polyurethane foam. This represents an important step toward turning polyurethane-based products into potential sources of raw materials for future production. An example of putting this into practice is our participation in the pan-European PUReSmart research project, which involves nine companies and academic institutions from six countries.

Covestro is also systematically conducting research in the PUR segment to determine how CO_2 can be used intelligently as an alternative raw material to crude oil. Covestro has developed a new type of polyol for use as a component in flexible polyurethane foam that is manufactured on an industrial scale and contains as much as 20% CO_2. Applications including mattresses and materials for sports flooring containing the product sold under the brand name cardyon® are already on the market.

Furthermore, Covestro is working to expand the technology platform for the future production of molecules and products using CO_2 such as elastic textile fibers. One application in the textile industry is nearly ready for market launch. Our achievements in research into the CO_2 technology and its broad application potential have attracted notice even outside the chemical industry: The innovation made it to the finals of the 2019 German Future Prize awarded annually by the President of Germany.

In fiscal 2019, we also continued to develop and refine flame-retardant insulation materials for the construction industry and further optimize insulation for the refrigeration appliance sector. By continually improving the insulating properties of refrigerators and refrigerated containers, our materials contribute to sustainably optimizing the refrigeration chain in the global food supply.

Moreover, with the help of new, digital technologies, we also significantly increased productivity in the manufacturing of insulating panels and elements, for instance in designing fixed plastic rakes, at our customers in the past fiscal year. Using digital technologies also conserved resources in research and development. We have had initial success in calculating catalysts for new raw materials and their processing.

In terms of state-of-the-art composite elements for automotive industry applications, our improved solutions for filling hollow spaces helped cut noise in the passenger compartment of vehicles.

Our development of novel polyurethane products for infusion technologies is another example of our innovation performance in the past fiscal year. For the first time, Covestro delivered polyurethane raw materials to China for the construction of wind turbines. The polyurethane resin developed and produced by Covestro was used to manufacture rotor blades for wind turbines, which were installed in a wind farm in eastern China.

Polycarbonates

In the Polycarbonates segment (PCS), we are developing products including new polycarbonate-based material solutions and customized products tailored to meet increasingly complex customer requirements in the mobility, health and electronics/LED technologies areas. The key here is to lower the weight of the components and final products, improve their energy efficiency and safety, and realize completely new design possibilities.

The trend toward modern and integrated light elements – made possible by LED technology – is a theme that can be traced through all industries, but particularly in the field of mobility. Due to their transparency and thermal stability, polycarbonates are the ideal material for innovative solutions.

In the automotive sector, the growing number of driving assistance systems, sensors and camera systems can be seamlessly integrated with our sensor-transparent materials under the Makrolon® brand. We also support the new requirements for electric drive systems by developing new flame-retardant products, e.g. for ultra-light honeycomb crash absorption structures for protecting batteries, vehicles and passengers. At K 2019, the world's leading plastics trade fair, we showcased a comprehensive vehicle passenger compartment concept featuring innovative and functional materials solutions addressing current mobility trends such as autonomous driving, electric drives and car sharing.

New applications for polycarbonates and polycarbonate blends for use in the global expansion of the 5G technology were also presented at the K 2019 plastics trade fair. Seamless integration of an expanded network of antennae and base stations into the cityscapes of the future is planned to increase public acceptance of these systems. Covestro is working with university students at the Umeå Institute of Design in Umeå (Sweden) and with Deutsche Telekom AG, Bonn (Germany), to this end. In a pilot project, the partners tested creative design concepts for small 5G antennae and base stations, including adaptation of their color and surface texture. Covestro has also developed a multi-layer film solution made of polycarbonate and polymethyl methacrylate (PMMA) for use in manufacturing 5G-ready smartphones. Thanks to the innovation and a new manufacturing process, the back of the smartphone appears glass-like without being fragile.

In 2019, too, we provided consistent support in the lighting market for the growing trend toward LED technology. Our newly developed products combine outstanding optical properties with exceptional longevity. In this way, Covestro supports the trend toward maintenance-free, efficient LED lighting.

Our innovations in the field of health applications are also worth noting. We designed a new clear-transparent material that meets the exacting requirements for manufacturing diagnostic ampoules, thus improving occupational safety for medical technology staff when conducting time-sensitive blood analyses. In addition, our newly developed carbon-fiber reinforced Makrolon® allows us to manufacture radiolucent disposable surgery instruments more efficiently.

For the electronics industry, our new product portfolio meets customers' stringent standards concerning optical and high-gloss display properties. With the new materials, it is now possible to realize larger displays with three-dimensional design. We have also made consistent advancements in the field of high-performance materials. At our Markt Bibart site, we commercially produce our continuous fiber-reinforced thermoplastic (CFRTP) composites, thus combining the stiffness and strength of carbon-fiber or fiberglass with the flexibility and efficient processability of thermoplastics. This makes applications lighter, increasingly stable and even more aesthetically pleasing. These composites unlock entirely new design possibilities in key areas such as IT, mobility and consumer products.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties segment (CAS) serves a large number of specialized industries. Together with our customers and partners, we introduced significant innovations in 2019, focusing on efficiency, sustainability and promoting our specialties.

At the European Coatings Show in Nuremberg (Germany), we introduced a raw material for the first time that increases the efficiency of high-performance coatings with extremely fast curing times. It is already being used commercially by various leading manufacturers, including producers of vehicle repair coatings. Another example is a new generation of automotive production line paints developed by Covestro with a partner consortium of other paint industry companies and leading automobile manufacturers. The new paints are based on Covestro's technologies and materials. In the construction industry as well, speed plays a role, so the parking garages at the new airport in Beijing (China) were coated with a fast-curing formula developed by Covestro. In addition, Covestro also presented water-based crosslinking agents with very fast curing times for use with wood.

We continually work on improving our portfolio of crosslinking and binding agents, which set new standards in occupational safety and industrial hygiene. For instance, in 2019 we developed additional products whose residual monomer content is again lower, therefore making their application even safer. In 2019, we also continued to improve sustainability by promoting biobased raw materials for manufacturing purposes, which help conserve additional resources and improve the user's carbon footprint. Examples of this are three Impranil® eco products for textile coating we developed to contain up to 56% renewable raw materials.

An initial plant-based product for cosmetics under the Baycusan® brand was brought to market by Covestro to meet the growing needs of the cosmetics industry, which gravitates toward natural ingredients. Based on our most recent research findings, we are also marketing polyurethane-based film formers with enhanced biodegradability over conventional raw materials to cosmetics companies.

In a joint research project with the Technical University of Denmark (Danmarks Tekniske Universitet, DTU) and partners from the wind energy industry, our CAS segment is developing a raw material for coatings that is suitable for use during extreme weather.

The area of thermoplastic special elastomers is capitalizing on customized solutions for the electronics industry, such as cell phone cases. Intelligent combinations of materials in the area of specialty films have been developed for security cards and medical technologies in close cooperation with our customers. These set new standards and generate above-average growth.

In the field of additive manufacturing, or 3D printing, Covestro is addressing continually growing demands and successfully pursuing the large-scale production of a material that allows customers to conduct 3D printing on an industrial scale.

Employees

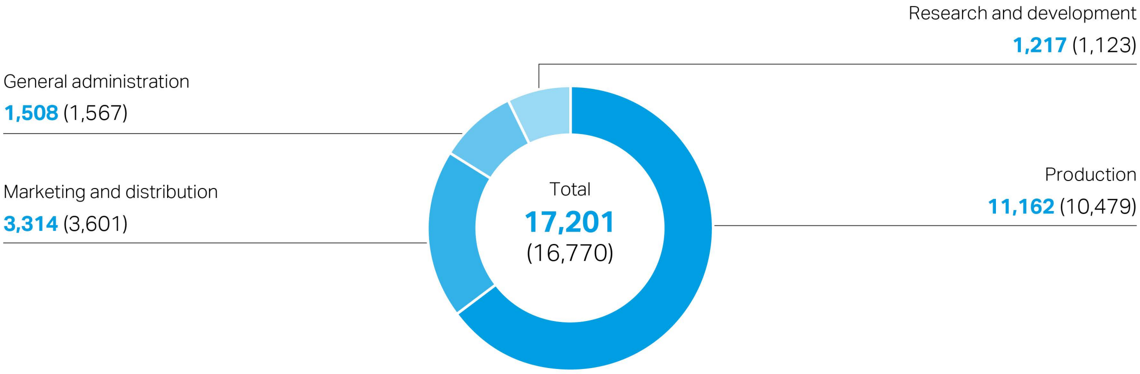
The multifaceted abilities and personal efforts of all employees contribute materially to Covestro's success. Every employee has both the freedom and a mandate to act and contribute in line with the company's goals, values and culture. Covestro thus promotes a working environment that is shaped by unconventional thinking, effective exchange of knowledge, creative problem-solving, constructive feedback and collegial cooperation. We aim to empower each of our employees to work to their full potential. Our managers are responsible for facilitating and supporting these objectives in close collaboration with our employees. In this way, we can work together to make an ongoing contribution to the company's success.

As of December 31, 2019, Covestro had 17,201 employees worldwide (previous year: 16,770). At the reporting date, the Group also had 550 employees in vocational training worldwide (previous year: 541), 531 of whom were based in Germany (previous year: 516).

See note 9 "Personnel Expenses and Employee Numbers" in the Notes to the Consolidated Financial Statements (p. 183)

Employees by corporate function[1]

in FTE (prior-year figure in parentheses)



[1] The number of employees on either permanent or temporary contracts is stated in full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours.

Human resources profile and focus

Digitalization, demographic change and the trend toward individualization are changing our work and the ways we do it. Our human resources activities focus on the development and implementation of initiatives that sustainably support our business success, while at the same time encouraging the professional development and engagement of individual employees.

Promoting performance and opportunities for individual contributions are priorities, as are building and developing the individual skills and expertise of our workforce for the long term. These activities are founded on leadership and management responsibility in line with Covestro's corporate culture and values. Our leaders set standards for working toward success, developing future-oriented skills and conducting personal interactions based on mutual respect. We treat health and safety in the workplace with very high priority. In addition, we focus in particular on further reinforcing diversity and inclusion.

The Board of Management is regularly involved in setting goals for Covestro's human resources (HR) activities. In terms of its structure and its content, the HR organization is positioned in line with the previously mentioned goals, and together with a global personnel management system, it includes the necessary processes.

Hiring and retaining highly qualified employees

It is a strategic challenge for Covestro to be an attractive employer worldwide. We aim to retain qualified employees for the long term, ensure their professional and personal development and hire new talent.

When recruiting new employees, the Employer Branding and Recruiting teams rely increasingly on digital channels. The company reaches out to different target groups worldwide through social media and digital platforms such as LinkedIn and Glassdoor to introduce Covestro as an employer. In order to open up dialogue with our target groups and solicit applications, we now participate in two other important platforms in addition to Facebook: Instagram in Germany and WeChat in China. A major initial step was taken with the launch of career sites in 2018. In the reporting period, this initiative continued: multilingualism was improved by adding languages, and the sites were made easier to find thanks to search engine optimization. In 2019, applicants were again at the center of our recruiting activities. We more firmly integrated our employer brand into Covestro's overall image. These activities, including our global online application management system, were received very well, as indicated by applicant surveys such as the Potentialpark survey.

We engage in numerous activities to maintain our overall attractiveness and significance as an employer brand. In addition, we pursue active HR marketing at all sites to attract employees and count on direct dialogue in the process. To achieve this, we maintain close contacts with leading universities, are involved in international networks of students, and take part in career fairs. Covestro participates in selected initiatives and networks such as the global student association Enactus and the UNITECH International European engineering network. In conjunction with the United Nations Environment Programme, Covestro is the main sponsor of the Young Champions of the Earth initiative. Furthermore, we hold career events, workshops and tours at various Covestro sites. In fiscal 2019, we also advertised career paths at Covestro during the world-class plastics trade fairs K 2019 and Chinaplas, and at video game trade fair Gamescom.

In addition to the vocational training options we offer in Germany, we bring in high-school and college students to take part in numerous professional internships worldwide each year. This gives them insight into our company's operations as well as personal experience with Covestro as an employer. Furthermore, Covestro offers varied trainee programs for university graduates. For specific job profiles, we actively approach candidates and introduce them to entry-level and career development opportunities.

We also hold global competitions, award ceremonies and other events to encourage special achievements and outstanding commitment. For example, Covestro was a leading partner company in the Carbon Footprint Challenge 2019, which awarded prizes for ideas for reducing the industrial sector's carbon footprint. This competition was hugely successful. Teams of students from 55 countries submitted over 350 different suggestions featuring ideas for ways to optimize the carbon footprint of processes and products in the future. More than 1,600 Covestro employees reviewed the top 25 ideas in advance, and evaluated and commented on these on an internal idea platform. We are proud that this Covestro-wide project received the 2019 HR Excellence Award in the higher-education marketing category.

As an employer, Covestro again received major awards in the reporting period, such as first place for the second consecutive time in an industry comparison in the Verband angestellter Akademiker und leitender Angestellter der chemischen Industrie e. V. (VAA) study in Germany, first place in Mexico's Súper Empresas 2019, and designations as a Great Place to Work in India, and Top Employer in China. We see this success both as commendation for a good job done and as motivation for the future.

Promoting and developing employees

Well educated and trained staff is crucial for ensuring that the company can further develop and is essential to the company's success. We believe in the concept of lifelong learning, so we support our employees in continuing their professional and personal education throughout all phases of their careers.

To this end, we offer a wide range of customized continuing education options for all employees through our in-house learning concept. It holds numerous in-person classes worldwide along with virtual training sessions, each of which focuses on a different target group. Digital transformation through the implementation of Workday Learning and an integrated skills management system for helping employees develop their competencies were in the spotlight in 2019 to support the corporate strategy. The goal is to provide employees with better learning pathways for their continuing education needs and to harmonize educational content globally.

In the area of personnel development, Covestro uses a model with clearly defined core and leadership skills that serves as a reference for all employees. This is intended to ensure that managers and employees use the same vocabulary and uniform criteria when assessing performance. This model is used to conduct sound career planning, performance assessment and potential assessment for employees. Moreover, the requirement profile for top management at Covestro was also refined this year to emphasize the main aspects of leadership behavior expected and to align it more closely with our corporate culture. We have also converted our performance assessment approach into an ongoing dialogue between staff and supervisors held during the year, thus ensuring the timely adjustment of goals and priorities. In addition, performance meetings are held between staff and supervisors in which individual strengths and improvement opportunities as well as professional perspectives within the Group are discussed. Managers and employees alike can take the initiative at any time and run a development dialogue on an ad hoc basis. The contents of these discussions are integrated into the ongoing human resources planning conferences to optimally develop employees in their own best interests and those of the company.

Maintaining a constant dialogue between the employees and management is a key concern for us. To this end, employees can use an application in the human resources system to provide or actively request feedback across hierarchical levels, a feature intended to further reinforce the feedback culture within the company. In the fourth quarter of 2019, we also launched the ENGAGE initiative worldwide to measure and improve employee engagement. All employees can provide feedback several times a year by filling out a voluntary, anonymous online survey with standardized questions. This is our effort to understand what is important to our employees. Subsequently, the results are discussed by employees and managers, who then collaborate to develop action items to continually improve working conditions. The majority of our workforce participated in the first survey.

Compensating employees transparently and competitively

Offering fair compensation in line with the market is an essential prerequisite for recruiting, retaining and motivating qualified employees. Covestro therefore combines a base salary reflecting the duties of a position with performance-related compensation components and extensive additional benefits to create an internationally competitive pay package, about which employees are informed transparently.

Tasks and responsibilities are classified on the basis of a job evaluation conducted without considering the individuals in the positions. In the area of managerial functions, an internationally recognized evaluation method is used if the job evaluation has not already been stipulated by a local collective agreement. Based on this classification, the amount of the base salary in all countries is aligned with standard compensation levels in the respective region. Regular compensation benchmarking is conducted to ensure this orientation is maintained for the long term.

Through the Group-wide Covestro Profit Sharing Plan (Covestro PSP) bonus program that has been in place since 2016, we have made it possible for our employees to participate in the success of the company each year with a uniformly calculated bonus payment. In addition, employees in managerial functions participate in the global compensation program Prisma, which bases payments on the Covestro share price, including in comparison to that of our competitors, and in this way rewards the long-term changes in the company's share price. Furthermore, a global budget is available from which supervisors can promptly grant Individual Performance Awards to recognize outstanding conduct, commitment and performance of their employees in regard to our corporate values.

See note 21 "Other Provisions" in the Notes to the Consolidated Financial Statements (p. 208)

As in previous years, the stock participation program Covestment was once again offered in 2019 and provides employees with the opportunity to purchase Covestro stocks at a discount. In 2019, the program was again expanded to additional countries. Employees in China, France, Japan, Switzerland and Slovakia were given the opportunity to participate for the first time. Around 97% of Covestro employees worldwide now have the chance to acquire Covestro stock at favorable terms and 41% of all eligible employees made use of this right. The participation ratio within the three major countries was 50% in Germany, 33% in the United States, and 59% in China.

Promoting diversity and inclusion

At Covestro we work to make the world a brighter place. For this reason, we promote diversity and inclusion as foundations for innovation and growth. We value differences and advocate for an integrated working environment in which various skills, talents, experiences, and points of view are welcome, and everyone is treated with dignity and respect, both within and outside of our company. It is our firm conviction that a diverse staff and integrated workplace are key drivers of innovation, sustainability and employee engagement, because diverse teams are more creative and are better at decision-making. Diversity and inclusion therefore contribute directly to the continued success of the company. In addition, Covestro has signed the Ten Principles of the UN Global Compact and Germany's Diversity Charter, an initiative under the patronage of Federal Chancellor Dr. Angela Merkel.

Covestro is advancing the topics of diversity and inclusion as an important part of its corporate culture. Targets and an enhanced understanding of diversity and inclusion are being further solidified in global action plans and regional implementation teams. The inclusion of different perspectives results in more balanced decisions and thus contributes substantially to Covestro's success.

Designing the best working conditions and work models

The health, safety and professional and personal dedication of our employees are extremely important to us. Continuous monitoring of and improvements to occupational safety, combined with the range of programs and initiatives aimed at promoting health, serve as the fundamental principles for designing optimal working conditions. Human resources management is supported in this task by the areas of Health, Safety, Environment and Quality (HSEQ) together with Law, Intellectual Property and Compliance (LIPC), and Corporate Audit. They assist Covestro in ensuring that all internal guidelines and relevant requirements of compliance and labor laws are met.

See "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" (p. 59)

We also offer modern working conditions to our employees, so that they can be successful in a changing working environment and balance their professional and personal interests. In many countries, we exceed our legal obligations, e.g., by offering solutions such as flexible working hours, part-time work and working from home if this is compatible with operational requirements. A direct dialogue with our employees is also particularly important to us. In this regard, we take into account national and international notification duties.

Our social responsibility as a company and an employer is based on our corporate values and our unreserved commitment to supporting and fostering human rights in our sphere of influence. At Covestro, social responsibility also includes creating working conditions that are based on mutual respect and appreciation among employees and particularly ensure safety in the workplace. Our sustainable personnel policy also features a strong social safety net for our employees.

Moreover, Covestro actively raises awareness of healthy lifestyles with a robust committee structure for workplace health management and a range of initiatives and projects tailored to the individual needs of our employees. This is particularly true in regard to the challenges facing us as a result of demographic change, the raising of the retirement age in many countries, and digital transformation.

We offer comprehensive workplace health management that is continuously expanded in response to surveys. The intention is to ensure that all employees have access to adequate and affordable health offerings such as sports programs, regular medical check-ups, help in overcoming illness and on-site medical care. The nature and scope of the health promotion programs differ around the world with regard to the respective country-specific level of development and access to national health systems. We offer our employees comprehensive measures aimed at preventing illness, in many cases exceeding statutory requirements.

New, flexible working environments for improved contact and communication

Work environments, contents and working methods are undergoing constant changes due to digital transformation and the increasing level of momentum and complexity at our workplace. In order to meet these ever-changing requirements, Covestro provides a modern working environment that promotes flexible ways of working. This applies particularly to cases such as moving into or creating new workspaces. We have already proven at many sites that this flexible working concept is successful, including in Brazil, Hong Kong, Switzerland, Taiwan and Thailand as well as in our new offices in Shanghai (China), which we moved into in early 2019. In addition, a new office building is currently being built in Leverkusen (Germany). It is expected to be completed in 2020 and house 750 employees. Special emphasis at Covestro is placed on a working environment that promotes learning and development while supporting agility and the exchange of knowledge. To achieve this, we provide not only the appropriate facilities, but also the IT infrastructure and media technology that works simply and intuitively.

We call this our C^3 way of working, based on our C^3 values. At the heart of this philosophy is our conviction that every person, regardless of their place in the hierarchy, requires a suitable working environment to perform their various job duties and to be able to work effectively. As such, we are invested in efforts to promote a change of perspectives and creativity in the company. Open-plan office environments combined with flexible work concepts encourage contact and the exchange of information across team and departmental boundaries and therefore strengthen communication and interdisciplinary cooperation.

Our managers play a special role in this system. In addition to the established leadership standards and modern work methods, they are increasingly called upon to collaborate with their employees to develop flexible and customized solutions to support Covestro’s efforts to extract maximum potential from this new work environment.

Protection of People and the Environment

Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality

Covestro's stated aims are to take preventive measures to protect employees, suppliers and service providers, ensure uninterrupted operations and continually improve quality. The head of the integrated HSEQ management system is commissioned directly by the Board of Management. The integrated management system implemented throughout the Group pertains to the topics of health, safety, environment and quality (HSEQ). The system ensures implementation of the specifications of the HSEQ Group guidelines and is based on internationally recognized standards governing occupational safety (OHSAS 18001), the environment (ISO 14001), energy (ISO 50001) and quality (ISO 9001). Adherence to processes and workflows is regularly verified through internal audits, annual self-assessments and external certifications. The insights we gain from these measures are incorporated into our annual management review. Every process is thus subject to ongoing monitoring and is updated as required. Our existing HSEQ management system corresponds to the requirements of the current ISO 9001:2015 and ISO 14001:2015 standards. In 2019, based on the new ISO standards, it was also successfully reviewed, audited and had its certification upheld by an external certification body. Specific targets in line with the aforementioned ISO standards have been defined. More details on these targets are available in the relevant sections below.

The integrated management system comprises the following three sub-sections:

Occupational health and safety

In the area of occupational health and safety, globally applicable processes and workflows include detailed rules governing the safety of production facilities and manufacturing processes, the investigation of accidents and environmental as well as transportation incidents, health care and occupational safety, and emergency management at Covestro. The rules stipulated by international standards such as OHSAS 18001 comprise the minimum requirements applicable worldwide and are supplemented with additional regulations if needed. These are intended to prevent accidents and incidents at the workplace or on transportation routes that could have adverse consequences for people or the environment. We also offer support to our customers, for example by providing training on the safe handling of our products in and outside of our facilities.

Environment and energy

Minimum environmental and energy standards applicable worldwide were specified to ensure that our high standards for resource conservation and emissions reduction are met. These requirements are based on internationally recognized standards and rules such as ISO 14001 (environmental management) and ISO 50001 (energy management). Each year we analyze and evaluate the effects of our activities on the environment. From our environmental performance assessment, we derive measures to reduce and minimize environmental impacts. Global process and workflow descriptions help us implement these measures throughout the Group. In the year under review, the energy efficiency system we introduced in 2008 based on ISO 50001 was reviewed, audited and had its certification confirmed for the eighth time at the main German production sites by an independent certification body.

Quality

We have very high expectations when it comes to the quality of the raw materials we use, and set standards for their processing into high-tech plastics and polyurethane precursors. Within the framework of our integrated HSEQ management system, our quality management activities meet the requirements of the current, newly revised ISO 9001:2015 standard. In doing so, we are creating the underlying conditions for addressing the customers' needs to a large degree with regard to our products and services.

Safety

The continuous improvement of a safe work environment is both a high priority and a key component of Covestro's corporate responsibility and corporate culture. Our primary goals include preventing injuries, disruptions at plants and accidents during transportation, as well as safeguarding the health of our employees in the workplace and during work-related activities. This also applies to partner companies (contractors) who work for our company within the scope of operational activities. Detailed rules and regular checks are instrumental in meeting these goals, as are safe production processes, plants and transportation. There is an equal focus on protecting the environment and the well-being of those who come into contact with our products. In addition, we continued the SafeGuard program, which allows us to address all aspects of safety of importance to Covestro in a comprehensive and global manner. Please continue reading for details on SafeGuard.

Occupational health and safety

An integrated information management system (IIMS) implemented throughout the Group exists for reporting and processing work incidents and potential hazards. The classification follows the U.S. OSHA Standard 1904 "Recording and Reporting Occupational Injuries and Illness." The IIMS makes it possible to identify trends in a timely manner so that corresponding short-term corrective and long-term improvement measures can be implemented if necessary. Covestro's safety experts, supported by external expertise if needed, analyze the background circumstances and the consequences of an incident. The results of the root cause analysis conducted after an incident occurs and the corrective measures taken are published throughout the Group in order to raise employees' safety awareness. As a result, everybody can better assess comparable hazards and situations as well as proactively remedy them.

Covestro processes workplace accidents involving the company's own staff and contractors as part of the recordable incident rate (RIR) and lost time recordable incident rate (LTRIR), as per OSHA 1904. This process involves determining a ratio of the number of all recordable incidents (RIR) or those with lost time (LTRIR) compared to the number of hours worked (standardized to 200,000 working hours per year).

We calculate the number of hours our employees work per year by multiplying the Group's headcount by the average annual number of working hours at country level reported by the OECD or other valid sources.

The number of hours worked by our contractors is calculated using a methodology revised in October 2019 that includes various categories for recording working hours. These categories are broken down by electronic or manual timekeeping or are obtained using supplier invoices. The figure can also be calculated based on valid assumptions (estimates). At very small sites with fewer than 50 Covestro employees, no contractor working hours are counted, so these are not included in the RIR calculation. We apply controls and other measures at the global level as well as individual site level to prevent possible errors in calculating contractor working hours. Implementation of the new system will continue in 2020.

Work-related accidents

	2018[1]	2019
Lost time recordable incident rate (LTRIR)		
in relation to Covestro employees	0.20	0.19
in relation to contractor employees[2]	0.10	0.18
Recordable incident rate (RIR)		
in relation to Covestro employees	0.38	0.29
in relation to contractor employees[2]	0.24	0.26
Fatal injuries		
in relation to Covestro employees	0	0
in relation to contractor employees	0	0

[1] The figures reported for 2018 are maximum values that are only comparable to the 2019 values to a limited extent.
[2] Employees of partner companies contracted by Covestro whose accidents occurred on one of our company premises

We continuously work to keep the incidence of accidents as low as possible in the future as well. In recent years, for example, we have developed a comprehensive plan to prevent accidents by contractor employees. It includes measures such as special safety programs for contractor employees and the consistent inclusion of outside companies in ongoing safety activities at our sites. In recent years, we have reached a safety plateau with our own employees. In other words, the accident figures as compared with the previous year show only minor positive or negative changes. We continued the SafeGuard program in 2019 with an eye to breaking through this plateau and ushering in a long-term positive trend. Continuation of the program will help us work toward zero accidents.

In 2019, we again used a defined set of criteria with regard to an event's potential in order to evaluate events which could have led to a High Potential Event (HPE) under other circumstances. These events classified as HPEs are thus treated as comparable with events that have actually occurred; they require a detailed cause analysis and must be communicated. Promoting safety awareness among employees is essential for minimizing hazards during day-to-day operations. A training program based on the experiences of the airline industry, Team Resource Management Training, was developed in 2019 and provided a new way to enhance employee awareness of safety issues. It concentrates on nontechnical skills that affect human behavior and collaboration by teams, including situational awareness, decision-making, communication and stress management.

Furthermore, the CEO Safety Award was awarded for the eleventh time. All employees were once again called upon to submit suggestions for improving safety. The ideas submitted were evaluated by a jury of in-house experts, and Covestro CEO Dr. Markus Steilemann presented awards to the winners at the global Covestro Safety Day in September 2019.

Process and plant safety

We aim to ensure the safety of processes and plants in a way that avoids unacceptable risks to our employees, our neighbors and the environment. We therefore conduct extensive, systematic safety inspections at regular intervals. A globally standardized key performance indicator (KPI), loss of primary containment (LoPC), applies to all Covestro plants and is an early indicator integrated into Group-wide safety reporting.

In 2019, Covestro implemented the German Chemical Industry Association's (Verband der Chemischen Industrie, VCI) November 2017 guidelines on documenting plant safety performance indicators. The new reporting criteria are therefore aligned with the updated and globally harmonized definition by the ICCA (International Council of Chemical Associations). A LoPC event comprises

- the release of chemicals classified according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) within one hour of exceeding the defined volume thresholds;
- a reportable injury according to OSHA criteria to an employee or contractor as a result of product release or the release of energy;
- the release of energy (e.g., fire, explosion) that leads to damage with direct costs totaling more than €2,500;
- an evacuation officially declared outside the plant.

We use the LoPC incident rate (LoPC IR) to determine the number of LoPC incidents per 200,000 working hours per year by Covestro employees and contractors. The considerably lowered volume thresholds mean that less significant incidents will now also be systematically documented and investigated as LoPC events. As expected, this led to an increase in the LoPC IR from 0.35 in the previous year to 0.66 currently, according to the new definition.

Every LoPC incident as well as minor and near-miss incidents are carefully analyzed to determine their causes, and the results and corrective actions taken are publicized throughout the Group. The criteria (e.g. very low threshold or nonhazardous substance releases) were selected so that even releases of substances or energy that have no impact on employees, neighbors or the environment are systematically recorded. This contributes to maintaining the integrity of our facilities. The global exchange of experiences relevant to safety are intended to help maintain the existing high standard of procedural and plant safety within the company. Globally binding standard processes and their uniform implementation also contribute to this effort, which has led to the rollout of a mandatory IT application for technical change management at key production sites.

Environmental and transportation safety

Next to the continuous improvement of process and plant safety and safety in the workplace, we are constantly working on making the transportation of our products safer. We report all incidents at all sites operated by Covestro worldwide in line with our internal directives. These are documented according to defined criteria such as quantity of loss of containment, material hazard class, degree of personal injury and blocked transportation routes. In the case of hazardous materials, we voluntarily record and categorize all leaks starting with as little as 50 kilograms. Global events on transportation safety are held at regular intervals. Here, corrective measures are developed and implemented based on actual incidents and tried-and-tested approaches are exchanged.

Environmental Protection

Environmental protection and the efficient use of resources are fundamental drivers guiding the actions of Covestro as an energy-intensive company, both in terms of our own business activities with substantial energy demand and the development of innovative product solutions. We continually strive to use materials and energy more efficiently and to reduce emissions and waste generated. Our innovative products also support the efforts of our customers in many industries such as the automotive, construction, wind turbine operation and electronics sectors, as well as the furniture, sports and textile industries, to improve their own resource efficiency and cut emissions. Environmental protection KPIs are reported for all fully consolidated companies. Since these figures are calculated only at the end of the year, they include the group of companies consolidated as it stands at year-end.

Energy consumption

Covestro's energy consumption includes the primary energy used in production and during electricity and steam generation by the company as well as the purchase of additional electricity, steam and refrigeration energy and process heat. It also comprises the energy lost during the generation and distribution of electricity and steam. All told, these figures make up Covestro's equivalent primary energy consumption.

The use of energy and materials and the level of greenhouse gases emitted are closely related to the quantity of materials we produce. In 2019, total energy consumption in the Group increased slightly by 0.3% while equivalent primary energy consumption fell by 1.0%, with a decrease of 0.5% in production volumes. As a result, the equivalent primary energy consumption for a given production volume (energy efficiency) improved by 0.5%. Our continued long-term positive trend indicating an overall 36.0% improvement in energy efficiency compared to the base year 2005 is attributable to factors including our ongoing efficiency improvement programs and the global energy efficiency system implemented by Covestro.

Energy consumption in the Covestro Group

	2018	2019
Equivalent primary energy consumption[1] (TJ)	75,553	74,786
Production volume[2] (million metric tons)	14.87	14.80
Specific energy consumption (energy efficiency)[3] (MWh per metric ton)	**1.41**	**1.40**

[1] Sum of all individual energies used at our main production sites (responsible for more than 95% of our energy consumption), converted into primary energy
[2] All in-spec key products, which in addition to our core products also include products such as precursors and by-products, manufactured at our main production sites (responsible for more than 95% of our energy consumption)
[3] Quotient of equivalent primary energy and in-spec production volume at our main production sites

Of particular note are the optimization of our polycarbonate plant in Map Ta Phut (Thailand), which achieved a reduction of 15,000 MWh of primary energy (steam), as well as the Baytown (United States) site, which reduced primary energy consumption by 20,000 MWh (electricity). We retrofitted the chlorine electrolysis system at that location to bring it up to the latest technical standard of the manufacturing process used there.

Greenhouse gas emissions

Along with governments, non-governmental organizations and other private-sector companies, Covestro supports implementation of the results of the 21st UN Climate Change Conference, which took place in Paris at the end of 2015, and is committed to the UN Sustainable Development Goals (SDGs).

Covestro calculates greenhouse gas emissions according to the internationally recognized standards of the Greenhouse Gas Protocol (GHG Protocol). The calculations include both direct emissions from the burning of fossil fuels and indirect emissions from the procurement and consumption of energy generated outside the company such as electricity, heating or refrigeration energy. In addition to CO_2, all other relevant greenhouse gases are also documented. The emissions factors for the calculation of CO_2 equivalents for the global warming potential were taken from the 5th Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) dated 2014. Additionally, a completely revised and updated greenhouse gas regulation was used in 2019.

In 2019, these specific emissions totaled 0.3901 metric tons of CO_2 equivalents per metric ton of product. Compared with the base year 2005, this corresponds to a cumulative drop of 46.1%, and a decrease of 10.2% compared to the previous year. We have used a calculation methodology based on the market-based method pursuant to the current GHG Protocol since 2018.

Covestro Group greenhouse gas emissions[1]

	2018	2019
Specific greenhouse gas emissions (metric tons of CO_2 equivalents per metric ton of production volume[2])	0.4342	0.3901

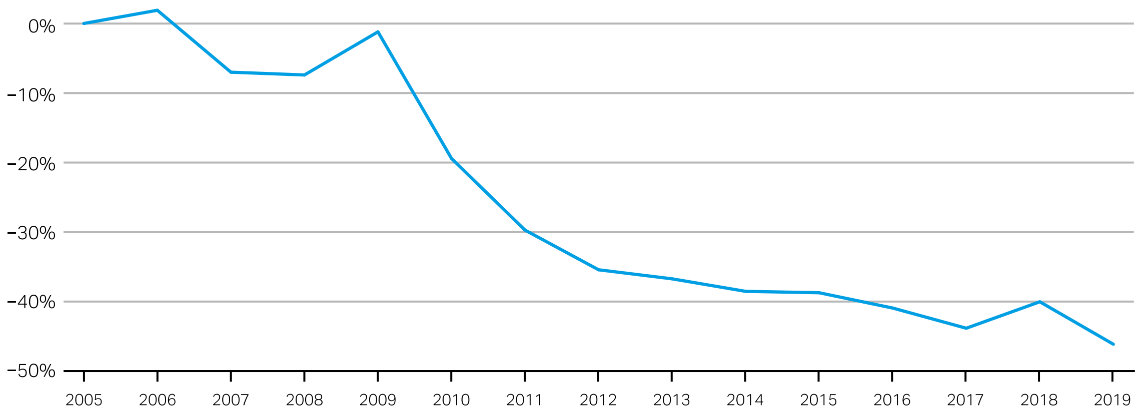
[1] Portfolio-adjusted based on the financial control approach of the GHG Protocol; global warming potential (GWP) factors up to 2018 correspond to the IPCC Second Assessment Report and from 2019 onward to the IPCC Fifth Assessment Report. Applying these factors to 2018 would produce an emissions figure that is 1.1% lower.

[2] Total greenhouse gas emissions (Scope 1 and 2, GHG Protocol) at the main production sites, which are responsible for more than 95% of our energy consumption (total of 5.8 million metric tons of CO_2 equivalents in 2019) divided by the in-spec production volumes for key products. Market-based emissions factors were mostly used when calculating specific Scope 2 greenhouse gas emissions; wherever these were not available, calculation was based on country-specific emissions factors from a generally accepted source (e.g. International Energy Agency, IEA).

Key drivers of the reduction are the developments at two major production sites in the United States and China. Compared with the previous year, we obtained energy such as steam and electricity externally with a significantly lower carbon footprint at these sites. This puts us back on the path to reaching our greenhouse gas goal of halving emissions by 2025.

Development of specific greenhouse gas emissions

(Cumulative annual change in the specific greenhouse gas emissions per metric ton of product manufactured, compared with the base year 2005 – expressed in %)[1]



[1] The calculation methods for fiscal 2018 onward were changed to the current market-based method, in accordance with the Scope 2 Guidance of the GHG Protocol. Values recognized from 2005 to 2017 are calculated throughout in accordance with the methods established in the GHG Protocol and which were in effect until 2014. When calculating changes in percentage points from 2017 to 2018, the value for 2017 was recalculated on the basis of the market-based method for comparability purposes.

Covestro develops products whose manufacture results in lower CO_2 emissions than those of conventional products – by using CO_2 as a raw material, for instance. In this context, the company began marketing an innovative binder in 2018 for which a key component is produced using as much as 20% CO_2. This conserves the same quantity of petrochemical raw materials and improves our carbon footprint.

Water, effluents and waste

Covestro takes a holistic view of water as a resource. We not only take our water consumption and the related problems of water scarcity and water quality into consideration but also the wastewater we generate and the growing concern of plastic waste in the oceans. This is underscored in our Corporate Commitment on Water.

In 2017, we therefore initiated a risk assessment of our production sites to examine water availability, quality and accessibility. In our production activities, we strive to use water several times and to recycle it. Covestro primarily generates wastewater from once-through cooling systems and production. All wastewater is subject to strict monitoring and analysis according to the applicable legal regulations before it is discharged into disposal channels.

For economic considerations alone, Covestro’s manufacturing processes are already as efficient as possible when it comes to the use of materials, so only relatively little waste is produced as a result. Ongoing observation and evaluation of the manufacturing processes minimize material consumption and disposal volumes as much as possible. This is achieved by safe disposal channels with separation according to the type of waste and economically expedient recycling processes. However, production fluctuations, building demolition and refurbishment, and land remediation can also influence waste volumes and recycling paths. The total waste volume produced rose in 2019, mainly due to nonhazardous waste from stepped-up construction and demolition activity at the Dormagen and Uerdingen sites in Germany. On the other hand, the volume of hazardous waste produced fell in the reporting year. One of the main reasons for this is the production-related waste at our production facilities in Baytown (United States) and Dormagen. We determine specific opportunities for waste reduction with targeted projects and put these into practice within the context of our existing manufacturing processes. For instance, a new procedure is currently being tested at our Dormagen site in the manufacturing process for our bulk TDI product, which significantly reduces the resulting process waste volumes. After its successful implementation, the findings can subsequently be transferred to additional plants at other Covestro sites. The next proposed step is to equip our large-scale TDI production facility in Shanghai (China) with this technology.

Covestro also supports the reuse and treatment of its materials in accordance with economic and environmental criteria. Some of the waste created by our production processes with a high heating value is burned as fuel to generate steam for our production facilities.

Our commitment to the topic of sustainability plays an increasingly vital role with regard to the purchasing of packaging materials. The responsible unit has implemented measures to address this. Covestro reviews in principle whether and to what extent used or reconditioned packaging can be used in the place of new packaging. For instance, Covestro uses PCR (post consumer regrind) plastic barrels for waste transportation. Drums made of recycled polyethylene (PE) replace PE drums from newly produced material. Thus, Covestro uses fewer raw materials, reduces emissions and has established the initial building blocks for a circular economy in the area of transportation and packaging.

Covestro supports initiatives such as Operation Clean Sweep (OCS), which focuses on preventing plastic particles from entering waterways and oceans. We have introduced global measures to minimize to the greatest extent possible the loss of plastic pellets on the way from production to the finished product at our customers’ locations. In 2018, we urged our partners in the supply chain to join the initiative; at the same time, we are continually monitoring the progress. In 2019, Covestro in cooperation with the PlasticsEurope association and other members started work on a proposal for an external certification system. We are reviewing how we can make OCS part of the sustainability issues covered by contracts with logistics partners.

Responsibility along the Value Chain

Sustainability in Supplier Management

Covestro regards adherence to sustainability standards within the supply chain as a fundamental factor in value creation and also an important lever for minimizing risks. For this reason, Covestro sets not only economic standards but also social, ethical and environmental standards, as well as those related to corporate responsibility when selecting new suppliers and in our relationships with existing suppliers. All required standards are defined in Covestro's Supplier Code of Conduct, which is available online in 13 languages and provides the basis for collaboration. The Code is derived from the principles of the UN Global Compact and our position on human rights. It is integrated across the Covestro Group into the electronic ordering systems and contracts. Furthermore, new and renewed supply agreements in particular generally contain special clauses requesting suppliers to adhere to the sustainability requirements contained in the Code of Conduct and entitling Covestro to verify their compliance.

See "Due diligence on human rights" (p. 74)

Additional information is available at: www.supplier-code-of-conduct.covestro.com

Covestro has set ambitious and measurable targets through 2025 aimed at systematically promoting sustainability in supplier management. All suppliers must comply with our code of conduct, which they commit to by accepting the conditions of our purchase orders or contracts. Relevant suppliers accounting for a repeat purchasing value exceeding €100,000 per year are also assessed. They comply with Covestro's sustainability requirements by meeting the minimum result as defined by us in the supplier assessments described below. In the year under review, around 95% of our total purchasing value was attributable to the aforementioned relevant suppliers. In addition, we work closely with our strategically most important suppliers to improve their sustainability performance. We have also incorporated this into our sustainability goals.

Evaluation methods and processes of the Together for Sustainability (TfS) initiative

Covestro is a member of Together for Sustainability AISBL, a joint initiative undertaken by the chemical industry that now numbers 22 companies. The nonprofit organization was founded in 2011 and pursues the goal of establishing a program of global standards for responsibly sourcing goods and services and standardizing supplier assessment methods worldwide. Covestro supports all criteria by the TfS initiative concerning the areas of ethics, employee rights, human rights, health and safety, and the environment.

As a member of TfS, Covestro is responsible for monitoring and auditing the sustainability performance of its suppliers. To support this, TfS offers the infrastructure for supplier assessments by third parties using online assessments and on-site audits. The results of these supplier assessments can be shared via an online platform. In the year under review, Covestro once again played an active role in all TfS work groups in designing and improving the TfS program and the associated assessment process.

A standardized TfS assessment process evaluates how well suppliers maintain the required sustainability standards. Covestro uses a structured prioritization process to select the suppliers to be evaluated and initiates either an online assessment or an on-site audit for these suppliers – provided that there are no current results. In prioritizing the suppliers for these assessments, Covestro considers a combination of country and material risks. The risk assessment for country and material groups that we use for our risk analysis is based on recognized external sources.

EcoVadis SAS (EcoVadis), an established external provider accredited by TfS, conducts the online assessments. It evaluates suppliers' business practices with regard to their sustainable orientation. The questionnaire suppliers complete for the online assessment is based on internationally recognized sustainability standards and includes 21 sustainability criteria grouped into the categories environmental protection, labor and human rights, ethics, and sustainable procurement. The questionnaire's section on sustainable procurement also inquires on the extent to which the sustainability standards of upstream suppliers are considered.

The questionnaire is dynamically adapted by EcoVadis depending on factors such as the industrial sector, company size and country risk. Suppliers must document the responses provided to the questionnaire with corresponding supporting documents. The EcoVadis analysts assess supplier responses and supporting documents in consideration of international standards, such as the United Nations Global Compact, and consolidate the data into a scorecard available online that shows results by category. This scorecard provides information including a detailed overview of identified strengths and improvement areas as well as a weighted overall result for the suppliers analyzed.

External, independent auditors trained and accredited by TfS conduct on-site audits of selected companies – and follow-up audits, if needed – based on the TfS sustainability criteria. For the purpose of monitoring the quality of the audits, the initiating TfS member takes part in audits selected on a random basis and evaluates them using a standardized checklist.

Covestro analyzes and documents the online assessments and on-site audits, and – in the event of non-compliance with our sustainability requirements – jointly defines with suppliers specific improvement measures and corresponding targets. Covestro continuously verifies the implementation of the required improvements.

The following table shows the status of the supplier assessments.

Key data from the sustainability assessments of Covestro's suppliers

	2018	2019
Share of relevant purchasing value from suppliers meeting Covestro's sustainability criteria[1,2]	**80%**	**81%**
Supplier assessments conducted in the reporting year[2]	**736**	**778**
of which through online assessments	712	760
of which through on-site audits	24	18
Total supplier assessments conducted[2]	**1,584**	**1,638**
of which through online assessments	1,400	1,478
of which through on-site audits	184	160
Supplier assessments meeting Covestro's sustainability requirements	1,074	1,133

[1] Only suppliers accounting for a repeat purchasing value exceeding €100,000 per year are taken into account.
[2] Online assessments (conducted by external, independent, TfS-accredited provider EcoVadis) and on-site audits (conducted by external, independent TfS-accredited auditors) of Covestro's suppliers, both initiated by Covestro and shared within the TfS initiative, are taken into account. Only assessments of our active suppliers that are no more than three years old are taken into account.

Results of online assessments and on-site audits

At the end of 2019, 81% (previous year: 80%) of our relevant purchasing value was attributable to suppliers whose externally determined results* meet our sustainability requirements. Furthermore, 56% of our strategically most important suppliers who conducted a repeat assessment in 2019 have improved over their previous results.

In 2019, assessment results considered critical by Covestro were identified for nine suppliers; in other words, they failed to meet the required minimum result by a significant margin. This corresponds to 1% of all suppliers assessed (previous year: 1%). Covestro responds to such infractions with specific action plans and demands that the suppliers in question implement appropriate corrective measures; follow-up audits are conducted to verify compliance. None of the audits conducted revealed any indication of child or forced labor.

As in the previous year, Covestro had no cause to terminate a supplier relationship in the reporting year because the assessment revealed an unsatisfactory performance or a serious sustainability deficit, e.g., human rights violations like child labor or forced labor.

* The results provided by the external providers EcoVadis SAS and Together for Sustainability AISBL were not subject to the audit by KPMG AG Wirtschaftsprüfungsgesellschaft.

Sustainability training and dialogue

For Covestro, it is important for our own procurement staff, in particular, to have a comprehensive understanding of the significance of sustainability in the supply chain. Awareness was raised among employees again in 2019 in company-wide sustainability training plus region- and country-specific training on assessment methods and processes.

We continued promoting the implementation of four strategic principles in procurement (reliability, sustainability, cost transformation and innovation) in 2019. In addition, Regional Program Managers were posted in each of the EMLA, NAFTA and APAC regions in the previous year. They work to promote the permanent establishment and optimization of our sustainability program.

See "Procurement" (p. 36)

Dialogue and close collaboration are essential in enabling suppliers to successfully comply with Covestro's sustainability requirements. We therefore offer our suppliers a range of opportunities for training and dialogue. This provides the foundation for building reliable relationships and enables us to identify and eliminate issues at an early stage. Continually improving our suppliers' sustainability performance is a priority for Covestro and is supported by the TfS initiative, which regularly organizes supplier days and promotes further training, among other activities. TfS provides a wide range of information materials and various online training courses on its website.

Product Stewardship

Product stewardship for Covestro means the comprehensive evaluation of health, safety and environmental risks. We want to ensure that our products are safe throughout their entire life cycle – from research to production and marketing and for their intended use by the customer through to disposal.

Monitoring the quality of our products and their suitability for particular applications is anchored in our operational units. Safe transportation, qualification for specifically regulated applications and marketability are centrally managed at Covestro, as is the obligation to report to the Board of Management on these matters.

The safe use and application of our products has high priority. We greatly value conveying product safety information transparently and comprehensively. In addition to the documents required by law, we therefore provide supplementary information and offer training as part of the global product strategy of the International Council of Chemical Associations (ICCA). Furthermore, experts in all areas of the company work closely with suppliers, customers, industry associations and the public. Covestro aims to ensure the effective communication and observance of health, safety and environmental information along the entire supply chain.

Management of product stewardship

Product stewardship involves both compliance with statutory requirements and voluntary commitment. Here we also take into account the precautionary principle as explained in Principle 15 of the Rio Declaration of the United Nations and communication COM(2000) 1 of the European Commission. This important means of protecting consumers and the environment within the context of risk management may be used in special cases in which, according to an objective and comprehensive scientific evaluation, material or irreversible harm to people and the environment may occur, but the risk of this cannot be established with sufficient certainty. In this, we follow the general principles of the European Commission for application of the precautionary principle. These include especially the proportionality of the measures taken, examination of the benefits and costs of all relevant options, as well as the review of the measures taken in light of new scientific developments. Arbitrary decisions cannot be justified by invoking the precautionary principle.

As a contribution to the safe handling and use of chemicals, risk assessments are carried out applying recognized scientific principles such as those described by the European Chemicals Agency (ECHA) in its Guidance on Information Requirements and Chemical Safety Assessment. A determination is made based on a hazard assessment and exposure estimation as to which additional information is required for the risk characterization of a product.

All product groups at Covestro undergo a multiple-step product safety assessment process. At first, we identify chemicals that are subject to statutory regulations and document the corresponding regulations. We then examine the risk potential of our products. During this process, we also identify substances for which only limited use or marketing are permitted based on the applicable laws and regulations. These include, for example, substances classified as being of very high concern in accordance with the European Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and substances covered by the European regulation on greenhouse gases. Substance compositions are checked against rules sets that would reliably indicate noncompliance with regulatory requirements. Should the assessment or new findings reveal that it is not safe to use a certain chemical, we take the necessary risk mitigation measures. Those can range from technical measures such as protective gear and revised application recommendations to the withdrawal of support for a certain application and substitution of a substance. In this case, an adequate replacement must be sought which can be produced in an economical and technically feasible way. Finally, we produce the legally required safety data sheets, technical data sheets and labeling for the chemicals, including for chemicals that are not subject to this legal obligation, thus exceeding statutory requirements.

We collect, document and analyze all information about the safe and compliant use of our products in a global information system, which provides the basis for further improvements. This includes product monitoring and reporting on product-related and compliance incidents. Our global regulations for the Group contain rules and guidance on when and how this information is to be used. For example, we have been able to improve the information on the safe handling of our products and provide customers with specific training. Furthermore, computer-based training for our employees along with workshops help embed the understanding and importance of product stewardship in the company.

For 2019, we know of no material incidents of noncompliance with regulations and voluntary codes concerning the health and safety impacts of products and services, nor of any significant noncompliance with regulations and voluntary codes relating to product information and labeling.

Fundamentally, the optimization of products and processes is an ongoing task of the chemical industry and is integral to our commitments as part of the Responsible Care initiative. This is an initiative by the chemical industry that aims for continual improvement by companies in the areas of environment, safety and health, regardless of the legal requirements. We also participate in the further development of scientific risk assessments through our involvement in associations and initiatives. International associations such as the European Chemical Industry Council (CEFIC) and the International Council of Chemical Associations (ICCA) are working to improve the scientific assessment of chemicals and research new testing methods. Moreover, they monitor implementation of legal regulations. Covestro is actively involved in industry association activities. Furthermore, we endorse the initiatives of the World Health Organization (WHO) and the EU to improve health and the environment, for example with the further development of human biomonitoring through an alliance with the German Chemical Industry Association (Verband der Chemischen Industrie, VCI) and the German Federal Ministry of the Environment.

Implementation of regulations and voluntary programs pertaining to chemicals

Covestro adheres to the applicable regulations pertaining to chemicals, such as REACH in Europe and the Toxic Substances Control Act (TSCA) in the United States. These regulations are aimed at protecting human health and the environment from the risks posed by chemicals and shape our activities as a manufacturer, importer and user of chemicals. We have established internal regulations to adequately address the range and complexity of the relevant requirements.

Substances registered according to REACH are assessed by regulators. This can result, for example, in additional testing requirements, new risk management measures, or inclusion in the REACH authorization procedure. A number of Covestro substances are also affected by this procedure, which restricts the use of particularly hazardous substances or can lead to their substitution or prohibition. The planned restriction on diisocyanates currently being discussed in the EU committees is one example of a potential restriction. Although diisocyanates will still be available on the market, their use in the workplace will require specific training and the implementation of (risk) management measures in the future. Covestro supports this and advocates a practical and effective arrangement, for example regarding the preparation of training materials. As a member of the European chemical industry, we made a voluntary commitment to review and improve the REACH registration dossiers by 2026.

In addition, Covestro pursues the goal of completing the assessment of the hazard potential for all substances used around the world in quantities exceeding one metric ton per annum by the end of 2020. We thus exceed statutory requirements. In addition, we ensure that substance assessments comparable to those meeting the high standards of REACH or the TSCA will also be applied at Covestro sites that are not subject to these regulations. The relevant procedure is established in the corporate regulation “Product Stewardship” in the annex entitled “Substance Information and Availability.” When it comes to purchased substances, we are dependent on information provided by our suppliers. In this regard, however, we expect that the availability of data will also continue to be limited in the future, particularly outside of the EU.

Another example of our commitment to Responsible Care is the worldwide support we provide for customers for safely handling large quantities of reactive products through tank-farm safety assessments.

Covestro has also committed to compliance with animal welfare policies during toxicological and eco-toxicological testing.

Additional information is available at:
www.productsafetyfirst.covestro.com/en/resources/resources/detail-pages/statement-on-animal-studies

We support the Global Product Strategy (GPS), a voluntary commitment by the chemical industry initiated by the ICCA. Its objective is to improve knowledge about chemical products, especially in emerging and developing countries, and thus increase safety in the handling of these products. GPS is accessible at Covestro through the Product Safety First internet portal and is available worldwide. On this website, we inform our customers and other interest groups about safety-relevant properties and the safe handling of our products.

Substances that are the subject of public debate

Covestro is following the scientific discussion about the chemical bisphenol A (BPA), a main feedstock for various plastics. Critics, but also some authorities, are concerned that risks could result for users and the environment if traces of BPA are released from products. At this time, these concerns are primarily being discussed in the context of the European chemical regulation REACH.

Based on numerous scientifically valid and high-quality studies, Covestro is confident that BPA can be safely used in all areas of application supported to date. This assessment is supported, e.g., in the case of food safety, by the latest evaluations from the responsible European and American authorities, namely the European Food Safety Authority (EFSA) and the Food and Drug Administration (FDA). By participating in regulatory processes, Covestro is actively working to dispel uncertainties and answer open questions. In addition, we continue to advocate for making the discussion more objective based on all of the scientific data and in cooperation with the PlasticsEurope association, the American Chemistry Council (ACC) and the China Petroleum and Chemical Industry Federation (CPCIF). Covestro is involved in the debate, providing information to customers and the public on this issue through associations, on the Covestro website and through direct contacts.

Circular Economy

Limited natural resources and advancing climate change are two key drivers of the circular economy. For Covestro, the circular economy primarily means finding efficient solutions so that products and materials are returned to the value cycle at the end of their use phase – as a whole, in the form of polymers or in molecular form. In this way, we aim to create new value from products and materials. We take a holistic approach so that implementing circularity also reduces our resource consumption and greenhouse gas emissions. In addition to developing new processes, we therefore strongly promote the concept of circularity by taking this principle into account when designing products, purchasing materials, generating and using energy and raw materials, and developing new business models. Specifically, this means that materials such as plastics do not end up as waste, but instead continue to be used, for example, in multi-use systems. Plastics in recycled form can also be put to a completely new use. One example is the production of a polycarbonate based on a recyclate made from used polycarbonate water bottles that is used in the electronics industry in laptops, copiers, printers and similar applications.

For us, however, the circular economy does not end with recycling and reusing our own products and materials. We also develop processes and solutions for recycling materials such as solid waste and waste gases generated during production processes.

The transformation of an economy that, to date, is primarily oriented toward linear business models into a circular economy provides enormous opportunities for Covestro, for example through the development of new technologies, partnerships and business models. Alongside these opportunities, we are also keeping an eye on the circular economy's potential for disruption of the entire value chain. Against this backdrop, Covestro launched the global Circular Economy strategy program in early 2019. The first step was the development of strategic recommendations for the further implementation of the circular economy at Covestro by various Group functions and in all divisions. We established global teams for this purpose throughout the Group and conducted workshops in China, Europe and the United States. Based on the recommendations from the Circular Economy strategy program, the Board of Management decided to move forward with Covestro's strategic orientation in this area with an initial focus on the following elements:

- Specifically considering used plastic products as a possible source of raw materials in addition to other alternative sources such as CO_2 and biomass
- Developing innovative and resource-efficient processes for converting used plastics into feedstock for industrial production
- Actively promoting a way of doing business aligned with circularity by advancing existing and initiating new partnerships and business models along the entire value chain

Moreover, Covestro undertook additional initiatives to further develop and implement the circular economy within the Group. For instance, we launched an internal Start-up Challenge in which Covestro employees were called on to develop global ideas for sustainable product solutions. Out of 234 ideas submitted, all six finalists fell in the circular economy category.

Covestro also joined the PUReSmart research consortium, which began its work in 2019. Along with various value chain partners, Covestro is researching ways to improve the recycling of polyurethane plastics. Our common goal is to develop a circular product cycle for these materials. In 2019, Covestro also became a member of the Consortium for a Circular Carbon Economy in North Rhine-Westphalia. This consortium works intensively on researching the interconnection of the waste, chemicals and energy sectors in North Rhine-Westphalia in order to create new chemical products from locally available raw material resources. Along with industry partners, Covestro launched another initiative as part of the Circularise PLASTICS project in the year under review. The key question of this project is investigating how blockchain technologies can contribute to transparency and traceability in plastics recycling.

In China, we further expanded our portfolio of recycled polycarbonate products in 2019. Using a mechanical recycling process, we already produce more than ten different types of polymer granules and polymer blends for the Asian market. These products contain 20% to 50% recycled materials and are mainly used in the consumer electronics industry.

As part of a partnership with customers in the United States, polyurethane foams from our research and development activities that would otherwise have to be disposed of as waste are obtained and recycled. Moreover, we entered into a research partnership with the non-profit organization Mattress Recycling Council in California (United States) in which we intend to improve and expand mattress recycling in the United States.

Covestro is currently evaluating various options at different levels for measuring and accounting for circularity. In 2019, we continued to pursue an approach to carbon productivity to extract the maximum benefit from carbon. The approach aims to make the disconnection of value creation from the use of fossil resources measurable. Circularity can contribute to this goal through the multiple reuse of the carbon contained in products. In principle, this methodology can be applied at the product, company and economy levels. Currently, we are evaluating whether this could also be a suitable indicator for measuring the implementation of circularity in companies, in individual sectors or in economies as a whole. We commissioned an external study on this topic and hope to obtain further insight as a result.

In addition, we have worked on accounting issues relating to the circular economy in the chemical industry and our production processes as part of our Circular Economy strategy program. Among other things, we concentrated on the mass balance approach to enable allocation of secondary raw materials used to the individual products. We advocate the development of suitable processes that allow for transparent accounting for the recycled portion of material and product flows.

At the social policy level, Covestro is involved in Circular Economy Initiative Deutschland (CEID), which receives public-sector support and is spearheaded by the National Academy of Science and Engineering (acatech). CEID is working on developing a common vision of Germany's path to a future-proof circular economy. Covestro is a member of the steering committee and actively participates in working groups for circular business models and battery and packaging cycles.

At the European level, Covestro is a signatory to the Circular Plastics Alliance declaration and will support the common goal aiming for European business to use at least 10 million metric tons of recycled plastics annually by 2025.

In China, we engaged in the discussion on the circular economy at various levels. Covestro is a member of the China Plastics Reuse and Recycling Association (CPRRA) and also active in the China Circular Economy Association (CCEA). We additionally participated in cooperative bilateral events in China on the circular economy, such as the 6th Sino-German Environment Forum on the topic of circular economies for plastics.

At the international level, Covestro participates in the Alliance to End Plastic Waste (AEPW) network.
See "Alliance to End Plastic Waste" (p. 75)

In fiscal 2020, Covestro will define additional steps and conditions for the company in order to structurally and technologically advance its focus on the circular economy.

Social Responsibility

Covestro is a signatory to the UN Global Compact charter and participates in the industry-led Responsible Care initiative and in global sustainability forums such as the World Business Council for Sustainable Development (WBCSD). We publish voluntary corporate commitments on important topics on our website, thus undertaking to comply with certain standards.

Additional information is available at: www.covestro.com/en/sustainability/service-downloads/policies-commitments

Due diligence on human rights

Covestro is committed to respecting human rights on the basis of the United Nations Guiding Principles on Business and Human Rights. We advocate for compliance with the various national action plans and laws on human rights due diligence. In doing so, we openly take responsibility as a company for respecting human rights in all of the Covestro Group's activities, at subsidiaries and throughout global supply chains and value chains, as well as for guarding against violations of human rights.

The principles of our due diligence on human rights are delineated in various voluntary commitments, company policies and our Supplier Code of Conduct. In these documents, we have specified key international conventions and principles as the basis of our conduct. We expect our employees and business partners around the world to conduct themselves in accordance with these principles.

A key component of our due diligence on human rights lies in zero tolerance of child labor, forced labor and human trafficking. We made a public statement on the latter in the reporting period in our updated document "Corporate Commitment against Slavery and Human Trafficking."

Covestro has also incorporated various sub-aspects of human rights in its management systems. This includes issues such as safety, product stewardship, compliance and human resources policy.

See "Employees," (p. 54) "Safety," (p. 60) "Product Stewardship" (p. 69) and "Compliance" (p. 132)

Covestro regards adherence to sustainability standards within the supply chain as a fundamental factor in value creation and an important lever for minimizing risks. In our Supplier Code of Conduct, we therefore require our suppliers to also protect the human rights of their employees and treat them with dignity and respect. We conduct detailed sustainability assessments of our suppliers that also focus on compliance with human rights due diligence.

See "Sustainability in Supplier Management" (p. 66)

Additional information is available at: www.supplier-code-of-conduct.covestro.com

Due to the growing importance of the issue of human rights due diligence, we systematically analyzed and assessed the risks of human rights issues in the year under review. The initial step was to identify and prioritize material human rights risks and their occurrence in our value chain (human rights risk assessment). Human rights risks are defined as any potential risk to those potentially affected that could arise from our business activity, supply chain or our products. The conducted risk analysis covered our own sites as well as the supply chain and the use phase of our products. In a workshop with selected departments, the potential risks were outlined, discussed and prioritized according to recognized criteria to be worked on further.

See "Material topics" (p. 46)

The risks were prioritized in two steps:

- Step 1: Identification and categorization of potentially unfavorable consequences for human rights. These include consequences that Covestro might have caused, under certain circumstances might have contributed to, or might be associated with indirectly in the course of its business activities.
- Step 2: Setting of priorities and identification of topics of particular relevance to Covestro (salient issues). For this purpose, both the severity of a possible human rights violation as well as Covestro's degree of influence (leverage) were assessed.

This risk analysis resulted in the identification of 11 topics with a high to very high priority for Covestro. Based on this risk analysis and a status-quo comparison of existing processes and structures for selected topics, we developed a concept for a comprehensive human rights management system which will be promoted further in 2020.

A comprehensive human rights due diligence concept and its development status were presented to the Board of Management in the reporting period.

Alliance to End Plastic Waste

As a founding member of the Alliance to End Plastic Waste, Covestro is expanding its commitment against the uncontrolled disposal of plastic waste in the environment. This global network of companies strives to minimize, manage and reuse plastic waste – and above all, prevent plastic waste from entering the environment. By the end of 2023, USD 1.5 billion (around €1.4 billion) is expected to have been provided for this purpose by the network. More than 40 companies from the chemical, plastic, consumer goods and waste disposal sectors currently participate in this initiative.

For Covestro, this alliance represents an important step toward promoting innovation, establishing strategic partnerships, transforming ideas for waste recycling into economically viable and sustainable solutions, and encouraging sustainable consumer habits. The objective is to use plastic waste as a raw material to keep the volume of plastic waste that enters waterways and the environment to a minimum.

The measures Covestro itself takes are key, since both the Alliance and its members concentrate primarily on specific actions. In 2020, our contribution to the Alliance's mission will be assessed for the first time using a newly developed list of criteria by the Alliance. Information about verified initiatives and projects will subsequently be published as long as they are not confidential.

Inclusive Business

We collaborate globally with customers as well as governmental and non-governmental organizations under the auspices of the Covestro Inclusive Business initiative to develop affordable solutions based on our technologies and products to benefit underserved populations and regions. Our employees focused on three regions (India, Southeast Asia and East/South Africa) and worked on improving the living conditions of underprivileged and mostly low-income people by implementing new innovative solutions for affordable housing, a secure food supply, as well as water and sanitary facilities. In cooperation with partners, we develop affordable products based on our raw material technologies tailored to user needs. One area of activity is post-harvest losses in the food industry in developing countries. Post-harvest losses are all losses occurring after the harvest (e.g., as a result of improper storage) and are an economic challenge particularly for smallholder farmers. Solar food dryers and cold storage, which are developed with industry partners within Inclusive Business, contribute substantially toward improving the financial situation of these farmers by reducing post-harvest losses. At the same time, innovative solutions help open up new markets for our company.

It is important to clearly distinguish between Inclusive Business activities and donation activities. This is mainly achieved by working with partners to focus on the joint development of new and affordable solutions whose financing is ultimately assumed by governmental and non-governmental organizations. Our work in consortia also ensures that the relevant segments of the population ultimately profit from the jointly produced end products.

In line with the UN Sustainable Development Goals (SDGs), Covestro is pursuing the goal of improving the lives of ten million people in underserved developing and emerging countries by 2025. The Board of Management is informed annually about these global activities. By 2019, we reached more than 650,000 people with Inclusive Business solutions. We arrive at this number for the installed solutions by considering the people that could potentially benefit from our projects as part of their work or daily life based on local conditions. These include farmers and their families, schoolchildren or the people employed for the installation. The data is collected with the help of participating governmental and non-governmental organizations as well as third-party sources of data for determining average family sizes in the respective countries.

In Africa, the focus has been mainly on post-harvest solutions, especially food drying. The initiative enabled initial solar dryers to be implemented successfully in Tanzania and the Seychelles. We can also look back on a successful start in South Africa, including the launch of a long-term partnership with Tshwane University of Technology (TUT). Students at TUT will now work with our support on various drying methods using solar dryers in the next three years. The goal is to enable local production of solar dryers in Africa in 2020. In the coming fiscal year, we will expand our focus in Africa to securing the supply of drinking water.

In India, Nepal and Sri Lanka, we have installed various solutions ranging from sanitary facilities and affordable housing units to drying or cooling systems for preserving food.

The Inclusive Business team in Southeast Asia also concentrates on post-harvest products as well as drinking water supply and sanitary facilities. We successfully partnered with Blue Dragon Children’s Foundation on a pilot project on sanitary facilities at Muong Mun Secondary School. The project facilitates the supply of water to disadvantaged children from ethnic minorities in the Dien Bien province in Vietnam. A water distillation system by our Melbourne-based partner company F Cubed Ltd. in Australia and our specialty films are used to supply over 600 students with drinking water.

Social engagement and dialogue

Social and societal matters are of great significance to Covestro. We address our responsibility to society comprehensively through corporate citizenship as well as ongoing constructive dialogue with authorities, neighbors, stakeholders and organizations interested in Covestro. More specifically, we maintain constant contact with authorities and conduct regular plant tours as well as operating neighborhood offices. Donations, support programs and special partnerships are further expressions of Covestro’s active commitment to society.

Access to education, technology and a better life

Covestro would like to facilitate access to education, technology and a better life, and achieve the SDGs faster through our social engagement. As one of the world’s largest polymer companies, Covestro uses its position to work with different organizations in numerous regions in the world to advance projects for protecting the environment, improving the welfare of society, and stimulating the economy. To achieve this, a central unit in the company supports Group-wide efforts to plan and implement cooperative efforts with partners and donation management in order to provide more resources for meeting the SDGs.

REPORT ON ECONOMIC POSITION

Economic Environment

Global economy

At 2.5%, the global economy grew at a slower pace in 2019 than in the previous year. All regions saw weaker year-over-year growth. The drivers here were the escalation of trade disputes, especially between the United States and China, and the associated effects on investment activity and exports. The downturn was modest on the whole in the Middle East and Africa as well as China and the Asia-Pacific region. In contrast, North America, Latin America, Europe and especially export-oriented Germany experienced much lower growth rates than in the prior year.

Economic environment

	Growth[1] 2018	Growth[1] 2019
	%	%
World	**+3.1**	**+2.5**
Europe	**+2.1**	**+1.4**
of which Western Europe	+1.8	+1.2
of which Germany	+1.5	+0.5
of which Eastern Europe	+3.3	+2.5
Middle East	+2.4	+1.1
Latin America	+0.4	–0.2
Africa	+2.7	+2.6
North America[2]	**+2.8**	**+2.2**
of which United States	+2.9	+2.3
Asia-Pacific	**+4.7**	**+4.3**
of which China	+6.6	+6.2

[1] Real growth of gross domestic product; source: IHS (Global Insight), as of January 2020
[2] North America (not including Central America): Canada, Mexico, United States

Main customer industries*

In 2019, automotive production worldwide was down 5%. Despite a decline in sales of some 8%, China remained the largest sales market for the automotive industry. With the exception of Eastern Europe, which saw minimal growth, all regions recorded sharp downturns.

In 2019, growth in the global construction industry, at approximately 2%, was weaker than in the previous year. An ongoing recovery in Eastern Europe and Latin America as well as the continued stability of the investment climate in North America stood in contrast to diminishing growth in Western Europe and China.

The global electrical, electronics and household appliances industry expanded by some 4% in 2019. All regions reported a year-over-year slowdown in growth that was mild in North America and Europe, and significant in the Asia-Pacific region. Nonetheless, growth rates were positive, except in Latin America.

In 2019, the global furniture industry grew by about 2%, roughly the same as last year. All regions generated positive growth rates, although Asia-Pacific stands out as the main driver at around 3%.

* Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), Oxford Economics

Business Development of the Covestro Group

Key Data Covestro Group

	4th quarter 2018[1]	4th quarter 2019	Change	2018[1]	2019	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**+1.7%**	**+3.8%**		**+1.5%**	**+2.0%**	
Sales	3,272	2,864	–12.5	14,616	12,412	–15.1
Change in sales						
Volume	+2.9%	–0.7%		+2.3%	+0.8%	
Price	–9.3%	–13.3%		+4.5%	–17.3%	
Currency	+0.3%	+1.5%		–3.0%	+1.9%	
Portfolio	–1.0%	0.0%		–0.4%	–0.5%	
EBITDA	**293**	**278**	**–5.1**	**3,200**	**1,604**	**–49.9**
Depreciation and amortization	153	185	+20.9	620	752	+21.3
EBIT	140	93	–33.6	2,580	852	–67.0
Financial result	(24)	(26)	+8.3	(104)	(91)	–12.5
Net income	79	37	–53.2	1,823	552	–69.7
Operating cash flows	641	637	–0.6	2,376	1,383	–41.8
Cash outflows for additions to property, plant, equipment and intangible assets	278	307	+10.4	707	910	+28.7
Free operating cash flow	**363**	**330**	**–9.1**	**1,669**	**473**	**–71.7**
Net financial debt[3]				348	989	>100
ROCE				**+29.5%**	**+8.4%**	

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] Reference values calculated on the basis of the definition of the core business effective March 31, 2019.
[3] As of December 31, 2019, compared with December 31, 2018

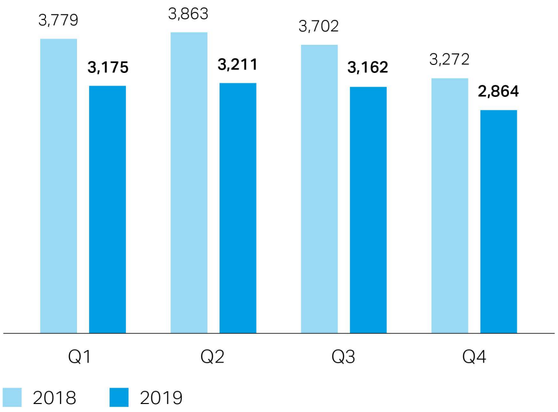
The Group's core volumes in 2019 as a whole rose by 2.0% over the prior-year period. The Polycarbonates and Polyurethanes segments reported growth rates of 2.7% and 2.3%, respectively. In the Coatings, Adhesives, Specialties segment, core volumes declined by 1.0% over the prior-year period.

In fiscal 2019, Group sales were down by 15.1% year over year to €12,412 million (previous year: €14,616 million). This is largely due to lower selling prices, which reduced sales by 17.3%. The main driver here is greater competitive pressure in all segments. The increase in total volumes sold gave sales a 0.8% boost and the effects of exchange rate developments also had a positive impact on sales of 1.9%. In contrast, changes in the portfolio had an overall negative effect on sales of 0.5%. The sale of the U.S. polycarbonate sheets business in the third quarter of 2018 and of the European polyurethane systems house business in the fourth quarter of 2019 had a negative effect. In contrast, the step acquisition of shares of Japan-based DIC Covestro Polymer Ltd. and its subsequent full inclusion in the Group's consolidated financial statements in the second quarter of 2019 had a positive effect on sales.

The Polyurethanes and Polycarbonates segments' sales were down in fiscal 2019. Sales in the Polyurethanes segment declined by 21.5% to €5,779 million (previous year: €7,362 million), and in the Polycarbonates segment sales decreased by 14.3% to €3,473 million (previous year: €4,051 million). At €2,369 million, sales in the Coatings, Adhesives, Specialties segment remained at the previous year's level (€2,361 million).

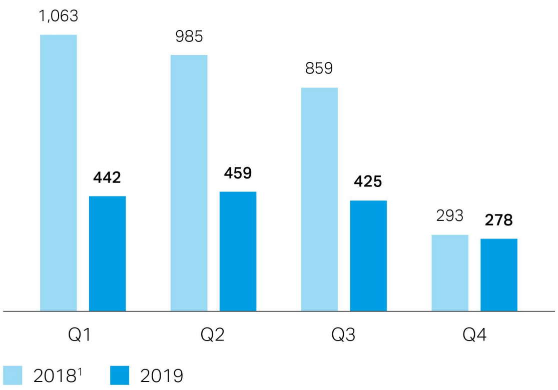
Covestro Group
Quarterly sales

€ million



Covestro Group
Quarterly EBITDA

€ million



[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

The Group's EBITDA in 2019 as a whole decreased 49.9% over the prior-year period to €1,604 million (previous year: €3,200 million).

See "Results of Operations" (p. 88)

In the Polyurethanes segment, EBITDA slid by 63.2% to €648 million (previous year: €1,763 million). The Polycarbonates segment's EBITDA fell by 48.3% to €536 million (previous year: €1,036 million). At €469 million, EBITDA in the Coatings, Adhesives, Specialties segment was up by 1.1% on the prior-year figure (previous year: €464 million).

In 2019 as a whole, depreciation, amortization and impairment losses rose by 21.3% to €752 million (previous year: €620 million). This development was mainly due to the application of the IFRS 16 standard, which resulted in an effect totaling €124 million. Depreciation, amortization and impairment losses amounted to €732 million (previous year: €599 million) in depreciation of property, plant and equipment and €20 million (previous year: €21 million) in amortization of intangible assets. This included €28 million (previous year: €7 million) in impairment losses and €1 million (previous year: €0 million) in reversals of impairment losses.

See „Alternative Performance Measures" (p. 92) and note 2.1 „Financial reporting standards applied for the first time in the reporting period" in the Notes to the Consolidated Financial Statements (p. 154)

In the 2019 fiscal year, the Covestro Group's EBIT dropped by 67.0% to €852 million (previous year: €2,580 million).

Operating cash flows sank by 41.8% to €1,383 million in fiscal 2019 (previous year: €2,376 million). EBITDA declined, while income tax payments decreased and freed-up working capital increased.

In the reporting period, free operating cash flow was down by 71.7% to €473 million (previous year: €1,669 million) due to a decrease in operating cash flows and increase in cash outflows for additions to property, plant, equipment and intangible assets. These outflows totaled €910 million in 2019 (previous year: €707 million).

Calculation of the return on capital employed

ROCE measures profitability and is calculated as the ratio of EBIT after imputed income taxes (NOPAT = net operating profit after taxes) to the average capital employed. Imputed taxes are determined by multiplying the effective tax rate by EBIT. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

The value contribution is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

In fiscal 2019, ROCE was 8.4% (previous year: 29.5%), exceeding WACC of 6.8% (previous year: 6.7%), which meant Covestro earned a premium over capital costs. This resulted in a positive value contribution of €120 million, which was, however, well below the prior-year figure of €1,474 million.

Covestro value management indicators at a glance

	2018	2019
	€ million	€ million
NOPAT	1,907	624
Average capital employed	6,468	7,406
WACC	+6.7%	+6.8%
ROCE	+29.5%	+8.4%
Value contribution	1,474	120

Material transactions

The increasing competitive pressure that had already become apparent in the fourth quarter of 2018 led to a sharp decrease in margins again in fiscal 2019. A drop in selling prices led mainly to EBITDA being reduced nearly by half compared with the previous year.

Effective April 1, 2019, Covestro increased its interest in DIC Covestro Polymer Ltd. (DCP), Tokyo (Japan), by another 30% to 80% as part of a step acquisition of shares. The shares previously recognized using the equity method of accounting were remeasured at their fair value. This resulted in a gain of €19 million, which was recognized in other operating income. DCP has been fully consolidated since April 1, 2019.

In the second quarter of 2019, Covestro's Polyurethanes segment signed an agreement to divest the European systems house business. This transaction was completed in the fourth quarter of 2019. The gain on the disposal of this business totaling €34 million was recognized in other operating income.

In the third quarter of 2019, Covestro's Polycarbonates segment signed an agreement to divest the European polycarbonate sheets business. Writedowns of assets totaling €26 million in connection with the disposal negatively affected EBIT. Of this amount, €21 million related to impairment losses on noncurrent assets.

Overall assessment of target attainment and business performance

Target attainment

In the 2018 Annual Report, the Covestro Group published a forecast for key performance indicators in fiscal 2019. In view of the business performance of the first nine months of fiscal 2019, Covestro AG's Board of Management elected to concretize the forecast for 2019 as a whole in the reporting for the period ended September 30, 2019. The earlier forecast of volume growth in the low-to-mid-single-digit percentage range was narrowed to the low-single-digit percentage range. Also concretized were the bandwidths for expected FOCF and ROCE performance. After initial projections of FOCF between €300 million and €700 million, this range was narrowed to between €300 million and €500 million in October 2019. The original ROCE forecast of 8% to 13% was narrowed to 8% to 10% in October 2019.

Target attainment 2019

	2018	Forecast 2019[1]	Narrowed forecast 2019[2]	Target attainment 2019
Core volume growth	**+1.5%**	**Low- to mid-single-digit-percentage range increase**	**Low-single-digit-percentage range increase**	**+2.0%**
of which Polyurethanes	+0.8%	Low- to mid-single-digit-percentage range increase	Low-single-digit-percentage range increase	+2.3%
of which Polycarbonates	+3.0%	Low- to mid-single-digit-percentage range increase	Low-single-digit-percentage range increase	+2.7%
of which Coatings, Adhesives, Specialties	+2.3%	Low- to mid-single-digit-percentage range increase	Low-single-digit-percentage range decrease	–1.0%
Free operating cash flow	**€1,669 million**	**Between €300 million and €700 million**	**Between €300 million and €500 million**	**€473 million**
of which Polyurethanes	€972 million	Increase in cash outflows for additions to property, plant, equipment and intangible assets, which will exceed the expected net cash provided by operating activities	Increase in cash outflows for additions to property, plant, equipment and intangible assets, which will exceed the expected net cash provided by operating activities	€32 million
of which Polycarbonates	€468 million	Decline in FOCF, although the trend here will likely be much more positive than for the Group as a whole	Decline in FOCF, although the trend here will likely be much more positive than for the Group as a whole	€404 million
of which Coatings, Adhesives, Specialties	€203 million	FOCF around the prior-year level	FOCF slightly below the prior-year level	€191 million
ROCE	**+29.5%**	**Between 8% and 13%**	**Between 8% and 10%**	**+8.4%**

[1] Published on February 25, 2019 (Annual Report 2018)
[2] Published on October 28, 2019 (Quarterly Statement as of September 30, 2019)

Covestro therefore met the projections for all key performance indicators for the Covestro Group in the forecast for fiscal 2019 originally issued and narrowed in October 2019. At 2.0%, our core volume growth met our forecast target. At €473 million, free operating cash flow for fiscal 2019 was in the announced range, as well as ROCE at 8.4%.

Overall assessment of business performance

Fiscal 2019 was a challenging year for Covestro, with business down significantly from fiscal 2018. The trend apparent in the second half of 2018 continued in the year under review and is primarily the result of a decline in selling prices. These developments halved EBITDA compared with the previous year's figure. Despite weaker demand from the automotive industry, core volumes expanded overall. Free operating cash flow also declined to €473 million (previous year: €1,669 million) on account of the lower EBITDA. In the interest of supporting our long-term growth and maintaining our facilities, we increased our cash outflows for additions to property, plant, equipment and intangible assets as planned to €910 million (previous year: €707 million).

Business Development by Segment

Polyurethanes

Key data Polyurethanes

	4th quarter 2018[1]	4th quarter 2019	Change	2018[1]	2019	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**+2.4%**	**+3.6%**		**+0.8%**	**+2.3%**	
Sales	1,597	1,336	–16.3	7,362	5,779	–21.5
Change in sales						
Volume	+2.5%	–0.2%		+0.9%	+1.5%	
Price	–17.6%	–16.9%		+1.9%	–24.7%	
Currency	+0.2%	+1.5%		–3.1%	+1.8%	
Portfolio	0.0%	–0.7%		0.0%	–0.1%	
Sales by region						
EMLA	678	546	–19.5	3,182	2,487	–21.8
NAFTA	474	394	–16.9	1,947	1,680	–13.7
APAC	445	396	–11.0	2,233	1,612	–27.8
EBITDA	**111**	**123**	**+10.8**	**1,763**	**648**	**–63.2**
EBIT	27	24	–11.1	1,412	250	–82.3
Operating cash flows	393	282	–28.2	1,386	575	–58.5
Cash outflows for additions to property, plant, equipment and intangible assets	171	168	–1.8	414	543	+31.2
Free operating cash flow	**222**	**114**	**–48.6**	**972**	**32**	**–96.7**

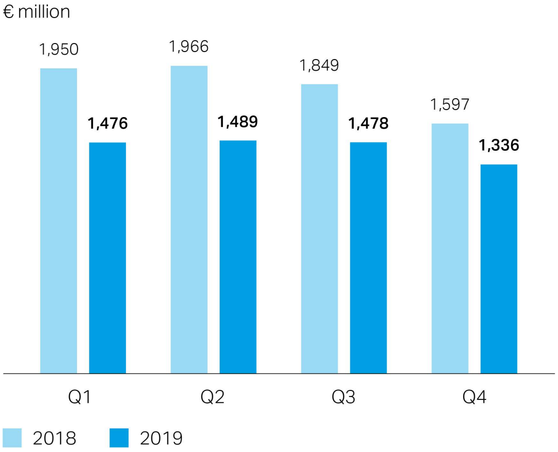
1 Reference information was not restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”
2 Reference values calculated on the basis of the definition of the core business effective March 31, 2019.

In fiscal 2019, core volumes in Polyurethanes rose by 2.3% over the prior-year period. An increase in volumes sold in the furniture and construction industries and in the electrical, electronics and household appliances industry more than offset weaker demand, especially from the automotive industry.

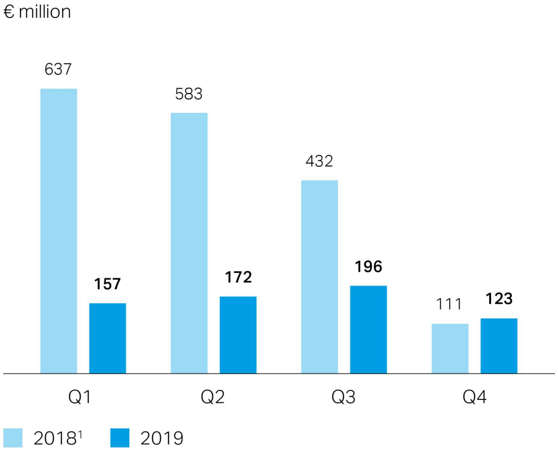
The Polyurethanes segment’s sales were down 21.5% to €5,779 million (previous year: €7,362 million). The decrease in average selling prices reduced sales by 24.7%. In contrast, the growth in total volumes sold and exchange rate movements increased sales by 1.5% and 1.8%, respectively. Moreover, the portfolio effect from the sale of the European systems house business in the fourth quarter of 2019 had a negative effect of 0.1% on sales.

Sales in the EMLA region declined by 21.8% to €2,487 million (previous year: €3,182 million) on account of significantly lower average selling prices. However, total volumes sold increased somewhat. Changes in exchange rates and the aforementioned portfolio effect had no notable impact on sales. The NAFTA region’s sales fell by 13.7% to €1,680 million (previous year: €1,947 million). Considerably lower selling prices and a minor decrease in total volumes sold combined to negatively affect sales. Conversely, exchange rate movements improved sales slightly. The APAC region’s sales declined by 27.8% to €1,612 million (previous year: €2,233 million) due to a clear drop in average selling prices. The increase in total volumes sold and changes in exchange rates had a mildly positive effect on sales.

**Polyurethanes
Quarterly sales**



**Polyurethanes
Quarterly EBITDA**



[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

EBITDA was down by 63.2% from the prior-year period to €648 million (previous year: €1,763 million). Lower selling prices cut deeply into margins despite a decline in raw material prices. In contrast, higher volumes sold had a positive effect on EBITDA. Moreover, insurance reimbursements were recognized in other operating income in the amount of €63 million. Gains from the sale of the European systems house business totaling €34 million served to increase earnings.

EBIT declined to €250 million (previous year: €1,412 million).

Free operating cash flow was down by 96.7% year over year to €32 million (previous year: €972 million), mostly due to a decrease in EBITDA and increase in cash outflows for property, plant and equipment. In addition, increased working capital freed up had a positive effect.

Polycarbonates

Key data Polycarbonates

	4th quarter 2018[1]	4th quarter 2019	Change	2018[1]	2019	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**+1.6%**	**+3.5%**		**+3.0%**	**+2.7%**	
Sales	924	814	–11.9	4,051	3,473	–14.3
Change in sales						
Volume	+4.2%	0.0%		+3.8%	+2.4%	
Price	–2.3%	–13.5%		+9.7%	–16.5%	
Currency	+0.3%	+1.6%		–3.4%	+2.0%	
Portfolio	–3.8%	0.0%		–1.7%	–2.2%	
Sales by region						
EMLA	301	270	–10.3	1,347	1,146	–14.9
NAFTA	200	160	–20.0	817	734	–10.2
APAC	423	384	–9.2	1,887	1,593	–15.6
EBITDA	**133**	**95**	**–28.6**	**1,036**	**536**	**–48.3**
EBIT	88	39	–55.7	861	300	–65.2
Operating cash flows	235	204	–13.2	654	613	–6.3
Cash outflows for additions to property, plant, equipment and intangible assets	70	84	+20.0	186	209	+12.4
Free operating cash flow	**165**	**120**	**–27.3**	**468**	**404**	**–13.7**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] Reference values calculated on the basis of the definition of the core business effective March 31, 2019

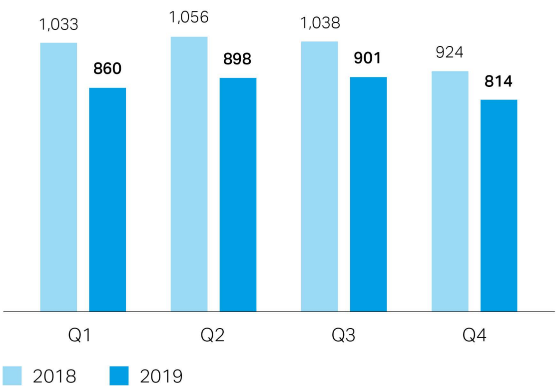
In 2019 as a whole, core volumes in Polycarbonates rose by 2.7% over the prior-year period. The electrical, electronics and household appliances industries and the construction industry were the main contributors to this growth.

The Polycarbonates segment's sales declined by 14.3% to €3,473 million in 2019 (previous year: €4,051 million). The key driver here was the year-over-year decrease in selling price levels, which reduced sales by 16.5%. In contrast, the expansion of total volumes and exchange rate movements had a positive effect on sales of 2.4% and 2.0%, respectively. Moreover, the portfolio effect from the sale of the U.S. sheets business in the third quarter of 2018 also impacted sales in fiscal 2019 with a negative effect of 2.2%.

In the EMLA region, sales were down by 14.9% to €1,146 million (previous year: €1,347 million). Significantly lower selling prices and slight decline in total volumes sold adversely affected sales, while changes in exchange rates overall did not have any notable impact. Sales in the NAFTA region declined by 10.2% to €734 million (previous year: €817 million), driven by a significant drop in average selling prices and the aforementioned portfolio effect, which had a strongly negative effect on sales. This stood in contrast to the slightly positive effects from the increase in total volumes sold and exchange rate movements. In the APAC region, sales decreased by 15.6% to €1,593 million (previous year: €1,887 million). Lower selling prices had a considerable negative effect on sales, whereas total volumes sold had a significantly positive effect. Exchange rate changes improved sales slightly.

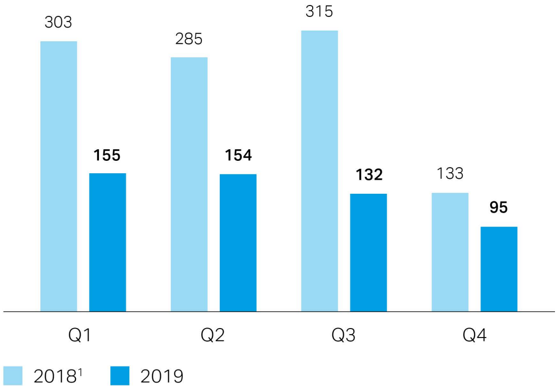
**Polycarbonates
Quarterly sales**

€ million



**Polycarbonates
Quarterly EBITDA**

€ million



[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

In 2019, EBITDA in the Polycarbonates segment decreased by 48.3% compared with the prior-year period, dropping to €536 million (previous year: €1,036 million), mostly on account of the negative change in selling prices. Moreover, the portfolio effect from the sale of the U.S. sheets business also reduced earnings. Conversely, lower raw material prices and higher volumes sold had a positive effect on EBITDA.

EBIT decreased by 65.2% to €300 million (previous year: €861 million). Writedowns of assets totaling €26 million in connection with the disposal of the U.S. sheets business negatively affected EBIT. Of this amount, €21 million related to impairment losses on noncurrent assets.

Free operating cash flow decreased by 13.7% year over year to €404 million (previous year: €468 million), mostly as a result of the lower EBITDA. Greater cash outflows for additions to property, plant and equipment also had a negative effect, whereas increased working capital freed up had a positive effect.

Coatings, Adhesives, Specialties

Key data Coatings, Adhesives, Specialties

	4th quarter 2018[1]	4th quarter 2019	Change	2018[1]	2019	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**−2.2%**	**+6.2%**		**+2.3%**	**−1.0%**	
Sales	534	533	−0.2	2,361	2,369	+0.3
Change in sales						
Volume	+0.3%	+0.1%		+3.5%	−2.1%	
Price	0.0%	−4.2%		+0.6%	−1.1%	
Currency	+0.6%	+1.9%		−2.6%	+2.3%	
Portfolio	0.0%	+2.0%		0.0%	+1.2%	
Sales by region						
EMLA	240	224	−6.7	1,117	1,052	−5.8
NAFTA	129	129	0.0	519	562	+8.3
APAC	165	180	+9.1	725	755	+4.1
EBITDA	**63**	**62**	**−1.6**	**464**	**469**	**+1.1**
EBIT	39	32	−17.9	371	352	−5.1
Operating cash flows	107	170	+58.9	309	349	+12.9
Cash outflows for additions to property, plant, equipment and intangible assets	36	55	+52.8	106	158	+49.1
Free operating cash flow	**71**	**115**	**+62.0**	**203**	**191**	**−5.9**

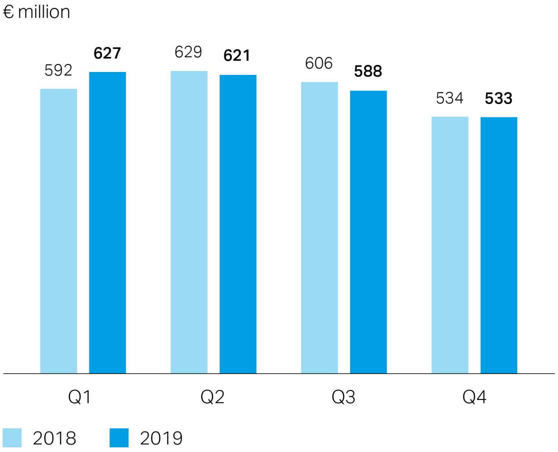
[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] Reference values calculated on the basis of the definition of the core business effective March 31, 2019.

In the 2019 fiscal year, core volumes in Coatings, Adhesives, Specialties were down 1.0% from the prior year. This development was driven primarily by weaker automotive industry demand for coating precursors.

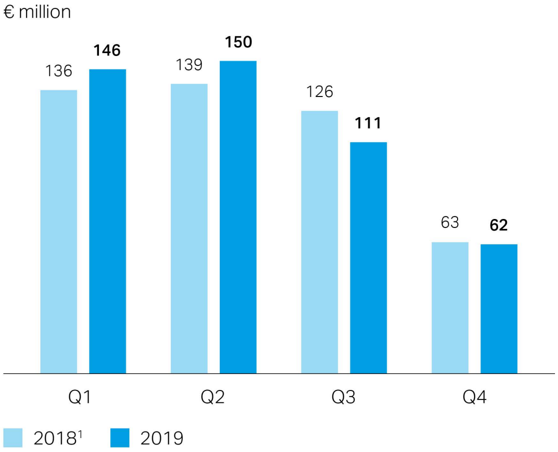
At €2,369 million, the Coatings, Adhesives, Specialties segment's sales remained stable year over year (previous year: €2,361 million). A decrease in total volumes sold and lower selling prices had negative effects on sales of 2.1% and 1.1%, respectively. In contrast, exchange rate movements had a positive impact of 2.3%. The step acquisition of shares and subsequent full consolidation of Japan-based DIC Covestro Polymer Ltd. also gave sales a 1.2% boost.

Sales in the EMLA region dropped by 5.8% to €1,052 million (previous year: €1,117 million) as a result of a sharp decline in total volumes sold. Changes in average selling prices and exchange rates collectively had no notable effect on sales. In the NAFTA region, sales grew by 8.3% to €562 million (previous year: €519 million). The growth in total volumes sold and higher selling price levels resulted in a slight improvement in sales. In addition, exchange rate fluctuations had a significant positive impact on sales. Sales in the APAC region increased by 4.1% to €755 million (previous year: €725 million). A modest positive effect from total volumes sold and exchange rate movements compensated for the minimal decrease in average selling prices. Moreover, the portfolio effect from the step acquisition of shares and subsequent full consolidation of Japan-based DIC Covestro Polymer Ltd. improved sales slightly.

Coatings, Adhesives, Specialties
Quarterly sales



Coatings, Adhesives, Specialties
Quarterly EBITDA



[1] Reference information was not restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”

EBITDA was up by 1.1% from the prior-year period to €469 million (previous year: €464 million). Lower selling prices were not balanced out by a decline in raw material prices and therefore cut into margins. Lower volumes likewise adversely influenced EBITDA. Conversely, exchange rate effects and the portfolio effect of the step acquisition of shares of Japan-based DIC Covestro Polymer Ltd. improved sales. In addition, the one-time gain from the remeasurement of shares of DIC Covestro Polymer Ltd. in Japan previously accounted for under the equity method had a positive effect on EBITDA of €19 million.

EBIT sank by 5.1% to €352 million (previous year: €371 million).

Free operating cash flow decreased by 5.9% to €191 million (previous year: €203 million). The main reason for this was the increase in cash outflows for additions to property, plant and equipment, which stood in contrast to the overall lower funds tied up in working capital.

Results of Operations

Covestro Group summary income statement

	2018[1]	2019	Change
	€ million	€ million	%
Sales	14,616	12,412	–15.1
Cost of goods sold	(9,918)	(9,658)	–2.6
Selling expenses	(1,408)	(1,380)	–2.0
Research and development expenses	(276)	(266)	–3.6
General administration expenses	(491)	(372)	–24.2
Other operating expenses (–) and income (+)	57	116	>100
EBIT	**2,580**	**852**	**–67.0**
Financial result	(104)	(91)	–12.5
Income before income taxes	**2,476**	**761**	**–69.3**
Income taxes	(647)	(204)	–68.5
Income after income taxes	**1,829**	**557**	**–69.5**
of which attributable to noncontrolling interest	6	5	–16.7
of which attributable to Covestro AG stockholders (net income)	**1,823**	**552**	**–69.7**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

Group sales in the reporting year dropped by 15.1% to €12,412 million (previous year: €14,616 million).

There was a 2.6% decrease in the cost of goods sold to €9,658 million (previous year: €9,918 million) on account of lower raw material prices. The ratio of the cost of goods sold to sales increased to 77.8% (previous year: 67.9%).

Selling expenses were down by 2.0% to €1,380 million (previous year: €1,408 million), yielding a ratio of selling expenses to sales of 11.1% (previous year: 9.6%). Research and development (R&D) expenses of €266 million decreased by 3.6% (previous year: €276 million). As a share of sales, this produced an R&D ratio of 2.1% (previous year: 1.9%). The funds were used mainly for developing new application solutions for our products and improving products and process technologies. The R&D projects are aligned to sustainability aspects.

General administration expenses saw a decrease of 24.2% to €372 million (previous year: €491 million).

A decline in provisions for short-term variable compensation had a positive effect on all functional costs.

Other operating income exceeded other operating expenses by €116 million (previous year: €57 million). This included items such as a gain from the sale of the European systems house business in the fourth quarter of 2019 amounting to €34 million, insurance reimbursements of €63 million, and a gain of €19 million from the remeasurement of shares of Japan-based DIC Covestro Polymer Ltd. previously accounted for under the equity method.

In the reporting period, EBIT amounted to €852 million, down 67.0% (previous year: €2,580 million). As a result, the EBIT margin decreased to 6.9% (previous year: 17.7%).

In fiscal 2019, the financial result was €–91 million (previous year: €–104 million). The key component of the financial result is the net interest expense totaling €–45 million (previous year: €–47 million). A negative effect from the application of IFRS 16 in the amount of €21 million is included in net interest expense. Conversely, lower hedging costs had a positive effect on net interest expense. Including the financial result, income before income taxes declined 69.3% to €761 million (previous year: €2,476 million). Due to earnings, the income tax expense dropped by 68.5% to €204 million (previous year: €647 million). After taxes and noncontrolling interests, net income was down 69.7% and amounted to €552 million (previous year: €1,823 million).

Financial Position

Covestro Group summary statement of cash flows

	4th quarter 2018[1]	4th quarter 2019	2018[1]	2019
	€ million	€ million	€ million	€ million
EBITDA	**293**	**278**	**3,200**	**1,604**
Income taxes paid	(69)	(31)	(574)	(296)
Change in pension provisions	8	26	26	49
(Gains) losses on retirements of noncurrent assets	(10)	(35)	(45)	(51)
Change in working capital/other noncash items	419	399	(231)	77
Cash flows from operating activities	**641**	**637**	**2,376**	**1,383**
Cash outflows for additions to property, plant, equipment and intangible assets	(278)	(307)	(707)	(910)
Free operating cash flow	**363**	**330**	**1,669**	**473**
Cash flows from investing activities	**(254)**	**(252)**	**(346)**	**(838)**
Cash flows from financing activities	**(373)**	**(57)**	**(2,402)**	**(668)**
Change in cash and cash equivalents due to business activities	**14**	**328**	**(372)**	**(123)**
Cash and cash equivalents at beginning of period	**846**	**422**	**1,232**	**865**
Change in cash and cash equivalents due to changes in scope of consolidation	–	–	–	(1)
Change in cash and cash equivalents due to exchange rate movements	5	(2)	5	7
Cash and cash equivalents at end of period	**865**	**748**	**865**	**748**

[1] Reference information was not restated, see note 2.1 " Financial reporting standards applied for the first time in the reporting period."

Cash flows from operating activities/free operating cash flow

Operating cash flows sank to €1,383 million (previous year: €2,376 million). A reduction in EBITDA stood in contrast to greater freed-up working capital and lower income tax payments. Cash outflows for additions to property, plant, equipment and intangible assets increased, resulting in free operating cash flow of €473 million (previous year: €1,669 million).

Cash flows from investing activities

In fiscal 2019, net cash used in investing activities totaled €838 million (previous year: €346 million). This item mainly reflected cash outflows for additions to property, plant, equipment and intangible assets of €910 million (previous year: €707 million) and cash inflows from the sale of the European systems house business of €51 million.

Capital expenditures in 2019 were targeted at plant maintenance and improvement as well as at new capacities in all three segments. An investment in the Shanghai (China) site safeguards and optimizes the chlorine supply. At Polyurethanes, after the successful completion of the MDI investment in Brunsbüttel (Germany), the strategically relevant capital expenditures pertained to the expansion of MDI capacity in Tarragona (Spain); at Polycarbonates, to the expansion of capacity at the site in Shanghai (China); and at Coatings, Adhesives, Specialties, to the expansion of global production capacities for Specialty Films.

Cash outflows for additions to property, plant, equipment and intangible assets

	2018[1]	2019
Polyurethanes	414	543
Polycarbonates	186	209
Coatings, Adhesives, Specialties	106	158
Others/Consolidation	1	–
Covestro Group	**707**	**910**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

Cash flows from financing activities

Net cash outflow for the Covestro Group's financing activities in 2019 amounted to €668 million (previous year: €2,402 million). These mainly included the dividend payout for Covestro AG totaling €438 million (previous year: €436 million).

Net financial debt

	Dec. 31, 2018[1]	Dec. 31, 2019
	€ million	€ million
Bonds	996	997
Liabilities to banks	24	10
Lease liabilities[2]	193	735
Liabilities from derivatives	12	10
Receivables from derivatives	(12)	(15)
Financial liabilities	**1,213**	**1,737**
Cash and cash equivalents	(865)	(748)
Net financial debt	**348**	**989**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] As of December 31, 2019, this also contains the lease liabilities from initial application of IFRS 16.

In fiscal 2019, net financial debt increased by €641 million to €989 million (previous year: €348 million). This rise was mainly attributable to the initial application of the IFRS 16 financial reporting standard and the resulting increase in lease liabilities. Moreover, cash and cash equivalents decreased to €748 million (previous year: €865 million).

Financial management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Covestro AG currently holds a Baa1 investment-grade rating with a stable outlook from the rating agency Moody's Investors Service, London (United Kingdom).

Covestro AG operates a Debt Issuance Program as a framework with a total volume of €5,000 million to facilitate obtaining flexible financing from the capital market. The company is thus in the position to issue fixed- and variable-rate bonds as well as to undertake private placements. Covestro AG successfully placed several bonds from its Debt Issuance Program in March 2016. The outstanding bonds with a total volume of €1,000 million are fixed-rate bonds maturing in October 2021 (1.00% coupon, €500 million) and September 2024 (1.75% coupon, €500 million), and carry a Baa1 rating from Moody's Investors Service.

The liquidity acquired in this way is intended to be used for general financing needs. Covestro AG agreed a syndicated revolving credit facility with a banking consortium totaling €1,500 million with a term until September 2022. No loans were drawn against this syndicated credit facility as of December 31, 2019.

The Covestro Group pursues a prudent debt management strategy to ensure flexibility, drawing on a balanced financing portfolio. This portfolio is based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

As a company with international operations, Covestro is exposed to financial opportunities and risks. These are continuously monitored within the context of Covestro's financial management activities. Derivative financial instruments are used to minimize risks.

Please see the "Opportunities and Risks Report" for further details of financial opportunities and risks.

Net Assets

Covestro Group summary statement of financial position

	Dec. 31, 2018[1]	Dec. 30, 2019
	€ million	€ million
Noncurrent assets[2]	5,801	6,791
Current assets	5,283	4,727
Total assets	**11,084**	**11,518**
Equity	**5,375**	**5,254**
Noncurrent liabilities[3]	3,126	4,129
Current liabilities	2,583	2,135
Liabilities	**5,709**	**6,264**
Total equity and liabilities	**11,084**	**11,518**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] As of January 1, 2019, this also contains the right-of-use assets from initial application of IFRS 16.
[3] As of January 1, 2019, this also contains the lease liabilities from initial application of IFRS 16.

Total assets were up by €434 million compared with December 31, 2018, to €11,518 million as of December 31, 2019 (previous year: €11,084 million).

Noncurrent assets increased by €990 million to €6,791 million (previous year: €5,801 million) and accounted for 59.0% (previous year: 52.3%) of total assets. This change is largely attributable to the increase in property, plant and equipment by €877 million, which in turn resulted mainly from the recognition of right-of-use assets in accordance with the initial application of IFRS 16. Current financial liabilities declined by €556 million to €4,727 million (previous year: €5,283 million) and therefore accounted for 41.0% (previous year: 47.7%) of total assets. Active working capital management was the main driver here, resulting in a decline in inventories and trade accounts receivable.

Equity as of December 31, 2019, decreased by €121 million to €5,254 million (previous year: €5,375 million). The equity ratio amounted to 45.6% as of the reporting date (previous year: 48.5%). Income after income taxes was insufficient to offset the equity-reducing effects of the dividend distribution and the remeasurement of pension obligations.

Noncurrent liabilities increased by €1,003 million to €4,129 million as of the reporting date (previous year: €3,126 million) and accounted for 65.9% (previous year: 54.8%) of liabilities. This was mainly due to an increase in provisions for pensions and other post-employment benefits by €520 million and noncurrent financial liabilities by €435 million. In contrast, current liabilities decreased by €448 million to €2,135 million (previous year: €2,583 million) and accounted for 34.1% (previous year: 45.2%) of liabilities. The chief reason was a decline in other provisions by €290 million.

Net defined benefit liability for post-employment benefits

	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Net defined benefit liability for post-employment benefits	**1,444**	**1,963**

The net defined benefit liability for post-employment benefits (pension obligations less plan assets) increased by €519 million in the reporting year to €1,963 million (previous year: €1,444 million). An increase in the value of the plan assets was unable to offset actuarial losses primarily resulting from the lowering of the discount rate in Germany and the United States.

Alternative Performance Measures

Throughout its financial reporting, Covestro uses alternative performance measures (APMs) to assess the business performance of the Group. These are not defined in the International Financial Reporting Standards (IFRSs). These non-IFRS indicators should be considered a supplement to, not a replacement for, the performance measures determined in accordance with IFRSs. The calculation methods and reconciliation of the non-IFRS sales and earnings APMs to the figures reported in the financial statements are presented below. The calculation methods for the APMs may vary from those of other companies, thus limiting the extent of the overall comparability. These alternative performance measures should not be viewed in isolation or employed as an alternative to the financial indicators determined in accordance with IFRSs and presented in the consolidated financial statements for purposes of assessing Covestro's net assets, financial position and results of operations.

The following are the alternative performance measures relevant to the Covestro Group:

- EBITDA
- Return on capital employed (ROCE)
- Free operating cash flow (FOCF)
- Net financial debt

Covestro uses ROCE to assess profitability in the context of the company's internal management system. EBITDA is also calculated as an additional indicator of profitability. FOCF is a key factor in the presentation of the liquidity position that indicates the company's ability to generate a cash surplus and finance its activities. Net financial debt gauges the Group's financial condition and financing requirements.

EBITDA

EBIT is a measure used in the calculation of EBITDA. EBIT represents the share of the income after income taxes plus financial result and income taxes attributable to Covestro's core business after elimination of the influence of variable tax rates and/or various financing activities.

Calculation of EBIT

	2018[1]	2019
	€ million	€ million
Sales	**14,616**	**12,412**
Cost of goods sold	(9,918)	(9,658)
Gross profit	**4,698**	**2,754**
Selling expenses	(1,408)	(1,380)
Research and development expenses	(276)	(266)
General administration expenses	(491)	(372)
Other operating income	123	181
Other operating expenses	(66)	(65)
EBIT	**2,580**	**852**
Financial result	(104)	(91)
Income before income taxes	**2,476**	**761**
Income taxes	(647)	(204)
Income after income taxes	**1,829**	**557**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

EBITDA is EBIT plus amortization and impairment losses on intangible assets, and depreciation and impairment losses on property, plant and equipment, less impairment loss reversals. In addition, EBITDA is adjusted for possible distortions arising from various depreciation/amortization methods and measurement options, and therefore represents earnings from operating business activities.

Calculation of EBITDA

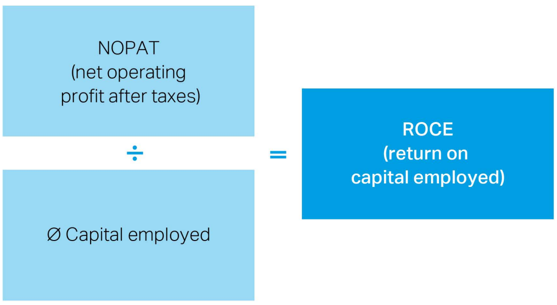
	2018[1]	2019
	€ million	€ million
EBIT	**2,580**	**852**
Depreciation, amortization, impairment losses and impairment loss reversals	620	752
EBITDA	**3,200**	**1,604**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

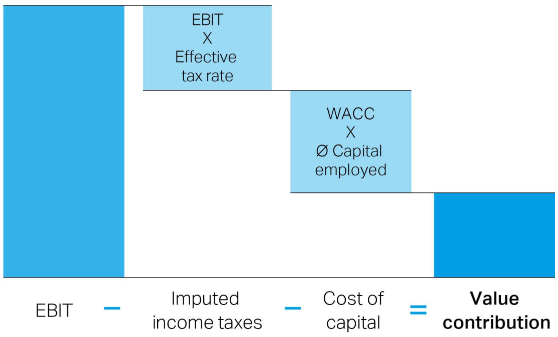
Return on capital employed (ROCE)

The foremost objective of the Covestro Group is to steadily increase enterprise value. Value is generated if Group earnings exceed the cost of capital. Covestro uses return on capital employed (ROCE) as the central value-based management metric. ROCE measures profitability and is calculated as the ratio of EBIT, adjusted for special items as needed, after imputed income taxes (NOPAT = net operating profit after taxes) to the average capital employed. If ROCE exceeds the weighted average cost of capital (WACC), the company is generating a premium on its cost of capital.

Calculation of the return on capital employed



Calculation of the value contribution



Calculation of average capital employed

The capital employed is the interest-bearing capital required by the company for its operations. It is calculated from operating noncurrent and current assets less non-interest-bearing liabilities. Non-interest-bearing liabilities include, for example, trade accounts payable and current provisions. The average capital employed is determined using the capital employed at the beginning and end of the relevant period.

Calculation of average capital employed

	Dec. 31, 2017[1, 2]	Effects of IFRS 9 and IFRS 15	Jan. 01, 2018[2]	Dec. 31, 2018[2]	Effects of IFRS 16	Jan. 01, 2019	Dec. 31, 2019
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Goodwill	253	–	253	256	–	256	264
Other intangible assets	81	–	81	77	–	77	114
Property, plant and equipment[3]	4,296	–	4,296	4,409	660	5,069	5,286
Investments accounted for using the equity method	208	–	208	214	–	214	192
Other noncurrent financial assets[4]	8	–	8	8	–	8	7
Other receivables[5]	297	61	358	361	–	361	376
Deferred taxes[6]	224	4	228	256	–	256	221
Inventories	1,913	(33)	1,880	2,213	–	2,213	1,916
Trade accounts receivable	1,882	(18)	1,864	1,786	–	1,786	1,561
Claims for income tax refunds	138	–	138	55	–	55	104
Assets held for sale[7, 8]	–	–	–	–	–	1	12
Gross capital employed	**9,300**	**14**	**9,314**	**9,635**	**660**	**10,296**	**10,053**
Other provisions[9]	(755)	28	(727)	(721)	–	(721)	(422)
Other liabilities[10]	(215)	(65)	(280)	(234)	–	(234)	(206)
Deferred tax liabilities[11]	(160)	(6)	(166)	(153)	–	(153)	(206)
Trade accounts payable	(1,618)	37	(1,581)	(1,637)	–	(1,637)	(1,507)
Income tax liabilities	(235)	–	(235)	(279)	–	(279)	(164)
Liabilities directly related to assets held for sale[12, 13]	–	–	–	–	–	–	(8)
Capital employed	**6,317**	**8**	**6,325**	**6,611**	**660**	**7,272**	**7,540**
Average capital employed				**6,468**			**7,406**

1 Reference information was not restated for financial reporting standards IFRS 9 and IFRS 15.
2 Reference information was not restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”
3 As of January 1, 2019, this also contains the lease liabilities from initial application of IFRS 16.
4 Other noncurrent financial assets were adjusted for nonoperating assets.
5 Other receivables were adjusted for nonoperating and financial receivables.
6 Deferred taxes were adjusted for deferred taxes from defined benefit plans and similar obligations.
7 Assets held for sale have been included in the calculation of capital employed since January 1, 2019. The prior-year figures were not restated.
8 Assets held for sale were adjusted for nonoperating and financial assets.
9 Other provisions were adjusted for provisions for interest payments.
10 Other liabilities were adjusted for nonoperating and financial liabilities.
11 Deferred tax liabilities were adjusted for deferred tax liabilities from defined benefit plans and similar obligations.
12 Liabilities directly related to assets held for sale have been included in the calculation of capital employed since January 1, 2019. The prior-year figures were not restated.
13 Liabilities directly related to assets held for sale were adjusted for nonoperating and financial liabilities.

Calculation of the net operating profit after taxes (NOPAT) and capital costs

NOPAT is the operating result (EBIT) after imputed income taxes. The imputed income taxes are determined by multiplying the effective tax rate by EBIT.

WACC reflects the expected return on the company's capital comprising both equity and debt. The cost of equity factors used in WACC are calculated by addition of the risk-free interest rate and the risk premium for an equity investment. Covestro uses the returns on long-term German government bonds as the risk-free interest rate. We derive this risk premium from capital market information for comparable listed companies. The cost of debt factors is calculated by addition of the risk-free interest rate and a risk premium on debt capital that Covestro calculates using the financing costs of comparable companies, less the tax benefit of interest incurred on borrowed capital. Calculation of the cost of capital generally has a long-term perspective; short-term fluctuations are evened out. The capital cost factor for the Covestro Group was 6.8% in fiscal 2019 (previous year: 6.7%).

Calculation of the value contribution

The absolute value generation of the company is measured by the metric value contribution. This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

Calculation of the value contribution

	20181	2019
	€ million	€ million
EBIT	2,580	852
Effective tax rate[2]	+26.1%	+26.8%
Imputed income taxes[3]	(673)	(228)
NOPAT	**1,907**	**624**
WACC	+6.7%	+6.8%
Average capital employed	6,468	7,406
Cost of capital	**(433)**	**(504)**
Value contribution	**1,474**	**120**
ROCE	**+29.5%**	**+8.4%**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] The calculation of the effective tax rate is presented in note 11 "Taxes."
[3] The imputed income taxes used in the calculation of NOPAT are determined by multiplying EBIT by the effective tax rate.

Free operating cash flow (FOCF)

FOCF is the operating cash flow less cash outflows for additions to property, plant, equipment and intangible assets. Free operating cash flow serves in particular to pay dividends and interest and to repay debt.

Calculation of free operating cash flow

	2018[1]	2019
	€ million	€ million
EBITDA	**3,200**	**1,604**
Income taxes paid	(574)	(296)
Change in pension provisions	26	49
(Gains) losses on retirements of noncurrent assets	(45)	(51)
Change in other working capital, other noncash items	(231)	77
Operating cash flows	**2,376**	**1,383**
Cash outflows for additions to property, plant, equipment and intangible assets	(707)	(910)
Free operating cash flow	**1,669**	**473**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

Net financial debt

Net financial debt equals the sum of all financial liabilities less cash and cash equivalents, current financial assets and receivables from financial derivatives.

Net financial debt

	Dec. 31, 2018[1]	Dec. 31, 2019
	€ million	€ million
Bonds	996	997
Liabilities to banks	24	10
Lease liabilities[2]	193	735
Liabilities from derivatives	12	10
Receivables from derivatives	(12)	(15)
Financial liabilities	**1,213**	**1,737**
Cash and cash equivalents	(865)	(748)
Current financial assets	–	–
Net financial debt	**348**	**989**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] As of January 1, 2019, this also contains the lease liabilities from initial application of IFRS 16.

Effects of IFRS 16 (Leases)

Initial application of the IFRS 16 accounting standard in the reporting period did not result in any changes in the method for calculating the alternative performance measures relevant to Covestro.

The effects of the initial application of IFRS 16 in the reporting period on the alternative performance measures are presented in the following table:

Effects of the initial application of IFRS 16 on the alternative performance measures

	Dec.31, 2019	thereof IFRS 16 effects[1]
	€ million	€ million
EBITDA	**1,604**	**131**
Depreciation, amortization, impairment losses and impairment loss reversals	752	124
EBIT	852	7
Imputed income taxes	228	2
NOPAT	624	5
Capital employed	7,540	570
Average capital employed	7,406	615
ROCE	**+8.4%**	**–0.7%**
Free operating cash flow	**473**	**130**
Net financial debt	**989**	**575**

[1] Effects of the initial application of IFRS 16 in the 2019 fiscal year

Results of Operations, Financial Position and Net Assets of Covestro AG

Covestro AG is the parent company and strategic management holding company of the Covestro Group. The principal management functions for the entire Group are performed by the Board of Management. These include strategic planning for the Group, resource allocation and executive and financial management. Covestro AG's net assets, financial position and results of operations are largely determined by the business performance of its subsidiaries.

The financial statements of Covestro AG are prepared in accordance with the German Commercial Code (HGB) and the German Stock Corporation Act (AktG). The company, headquartered in Leverkusen (Germany), is registered in the commercial register of the Local Court of Cologne under No. HRB 85281.

There is a control and profit and loss transfer agreement between Covestro AG and Covestro Deutschland AG, Leverkusen (Germany). All profit not subject to a prohibition on transfer is transferred in full to Covestro AG at the end of the year. Losses are absorbed in full. Other retained earnings recognized during the term of the agreement must be released upon request by Covestro AG and used to compensate a net loss for the year or transferred as profit.

Results of operations

Covestro AG income statements according to the German Commercial Code

	2018	2019
	€ million	€ million
Income from investments in affiliated companies - net	745	695
Interest expense - net	(18)	(14)
Other financial income - net	(6)	(3)
Net sales	23	21
Cost of services provided	(22)	(19)
General administration expenses	(79)	(48)
Other operating income	25	–
Other operating expenses	(1)	(3)
Income before income taxes	**667**	**629**
Income taxes	(171)	(6)
Net income	**496**	**623**
Retained earnings brought forward from prior year	3	1
Allocation to other retained earnings	(60)	(185)
Distributable profit	**439**	**439**

In fiscal 2019, Covestro AG generated net income of €623 million (previous year: €496 million), which stemmed largely from income from investments in affiliated companies totaling €695 million (previous year: €745 million). Income from investments in affiliated companies is solely attributable to income from the control and profit and loss transfer agreement with Covestro Deutschland AG.

General administration expenses totaling €48 million (previous year: €79 million) mainly consisted of personnel expenses for the employees of the holding company and members of the Board of Management. The year-over-year decline in the amount of €31 million is chiefly attributable to a decrease in expenses for short-term variable compensation and lower expenditure on strategic projects. The interest result includes interest expense of €14 million for the bonds issued. Other income and expense items had no notable effect on earnings. The result of operations was €629 million (previous year: €667 million) and led to income taxes of €6 million (previous year: €171 million). Taking into account the profit brought forward from the previous year and an allocation of €185 million (previous year: €60 million) to other retained earnings, there was a distributable profit of €439 million as in the previous year.

Our goal for the 2019 fiscal year was to generate distributable profit that would enable our stockholders to adequately participate in the Covestro Group's earnings. The Board of Management and the Supervisory Board are proposing a dividend of €2.40 per share carrying dividend rights for the 2019 fiscal year to the Annual General Meeting.

Net assets and financial position

Covestro AG statements of financial position according to the German Commercial Code

	Dec. 31,2018	Dec. 31,2019
	€ million	€ million
ASSETS		
Noncurrent assets	**1,767**	**1,767**
Intangible assets, property, plant and equipment	1	1
Financial assets	1,766	1,766
Current assets	**3,839**	**3,999**
Trade accounts receivables	25	7
Receivables from affiliated companies	3,762	3,902
Other assets	52	90
Deferred charges	**7**	**5**
Excess of plan assets over pension liability	**7**	**8**
Total assets	**5,620**	**5,779**
EQUITY AND LIABILITIES		
Equity	**4,444**	**4,636**
Capital stock	183	183
Own shares	–	–
Issued capital	183	183
Capital reserves	3,493	3,500
Other retained earnings	329	514
Distributable profit	439	439
Provisions	**160**	**125**
Provisions for pensions	3	3
Provisions for taxes	108	81
Other provisions	49	41
Liabilities	**1,016**	**1,018**
Bonds	1,000	1,000
Trade accounts payables	10	11
Payables to affiliated companies	1	3
Other liabilities	5	4
Total equity and liabilities	**5,620**	**5,779**

Covestro AG had total assets of €5,779 million as of December 31, 2019 (previous year: €5,620 million). The net assets and financial position of Covestro AG are dominated by its role as a holding company in managing subsidiaries and financing corporate activities. This is primarily reflected in the levels of financial assets (30.6% of total assets) and receivables from (67.5% of total assets), and payables to, Group companies.

Receivables from affiliated companies increased by €140 million to €3,902 million (previous year: €3,762 million). This is primarily due to a correspondingly higher intercompany loan to Covestro Deutschland AG.

All receivables and other assets have maturities of less than one year.

Property, plant, equipment and intangible assets were of secondary importance. At €12 million, current other receivables, including deferred income, were also immaterial in relation to total assets. Other assets of €90 million (previous year: €52 million) mainly included income tax and VAT receivables.

Covestro AG's equity amounted to €4,636 million (previous year: €4,444 million). This corresponds to an equity ratio of 80.2% (previous year: 79.1%). Changes in equity in fiscal 2019 were attributable to the payout of the dividend for fiscal 2018 in the amount of €438 million and an allocation of €185 million to retained earnings (previous year: €60 million). Treasury shares were issued to employees as part of a stock participation program (Covestment), thereby increasing capital reserves by €7 million in the fiscal year.

In contrast to equity, provisions amounted to €125 million (previous year: €160 million) and other liabilities totaled €1,018 million (previous year: €1,016 million).

Provisions comprised provisions for pensions and other post-employment benefits of €3 million (previous year: €3 million), tax provisions of €81 million (previous year: €108 million), and other provisions of €41 million (previous year: €49 million). The bonds have the following maturities: €1,000 million due within a period of one to five years. All other liabilities are due within one year.

REPORT ON FUTURE PERSPECTIVES AND ON OPPORTUNITIES AND RISKS

Report on Future Perspectives

Economic Outlook

Global economy

For 2020, we anticipate the environment to remain challenging and for global economic growth to hover around the previous year's level. Positive impetus stems from solid domestic demand in the industrialized countries coupled with dissipation of the trade dispute between the United States and China. Growing tensions in the Middle East, however, could have an adverse effect on global economic performance.

In Western Europe, we expect slightly positive growth, mainly on account of declining unemployment rates, rising incomes, and higher government spending. The European Central Bank continues to pursue an expansive monetary policy, which could serve to bolster this trend, although the effects on the real economy will no longer be significant. We project Germany's export-oriented economy to see slightly lower year-over-year growth of approximately 0.4%. For Eastern Europe, we anticipate only a slight slowdown in performance, which will nonetheless remain robust.

After weaker performance in the previous year, we expect the Middle East and Africa regions to return to robust growth rates. Driven by a recovery in the construction and mining industries as well as oil production in Brazil, Latin America will likely return to positive growth rates.

The overall positive economic trend in North America is anticipated to continue through 2020. Factors contributing most to this development are domestic demand in the United States, which continues to be stable thanks to low unemployment, positive impetus for the residential real estate market and the country's ongoing expansive fiscal policy.

For China, we project continued robust economic growth in 2020 that will, however, reflect a slowdown from the previous year. Economic stimulus initiated by the government and a pause on the trade conflict with the United States are expected to result in macroeconomic stability that is expected to benefit both the country and the Asia-Pacific region as a whole.

Economic outlook

	Growth[1] 2019	Growth[1] forecast 2020
	%	%
World	**+2.5**	**+2.5**
Europe	**+1.4**	**+1.2**
of which Western Europe	+1.2	+0.9
of which Germany	+0.5	+0.4
of which Eastern Europe	+2.6	+2.4
Middle East	+1.1	+2.0
Latin America	–0.2	+0.9
Africa	+2.6	+2.9
North America[2]	**+2.2**	**+1.9**
of which United States	+2.3	+2.1
Asia-Pacific	**+4.3**	**+4.2**
of which China	+6.2	+5.8

[1] Real growth of gross domestic product; source: IHS (Global Insight), as of January 2020

[2] North America (not including Central America): Canada, Mexico, United States

Main customer industries*

In 2020, we expect the global automotive industry to return to growth of around 1%. Positive growth rates in Asia-Pacific, particularly thanks to China's recovery, and in Europe will contribute to this development. North America should see somewhat higher growth than the Asia-Pacific region and Europe.

For the global construction industry, we expect a slight decline in growth from the previous year to around 2% in 2020. In Europe, North America, and the Asia-Pacific region, we project ongoing positive growth rates that will, however, be lower than in the previous year.

We expect the global electrical, electronics and household appliances sector to grow at the prior-year level of around 4% in 2020. All regions are anticipated to see positive growth rates, with Europe and Asia-Pacific likely to stabilize at the prior-year pace. However, we believe North America will see a strong decline in the pace of growth.

In the global furniture industry, 2020 should bring growth of some 2%, around the previous year's level. The main driver here continues to be the Asia-Pacific region, which continues to experience stable expansion of around 3%. We expect a positive trend in Europe and Latin America with growth somewhat higher than in the prior year. In North America, we anticipate only minimal growth, slightly over the previous year's level.

* Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), Oxford Economics

Forecast

Forecast key performance indicators

	2019	Forecast 2020
Core volume growth	+2.0%	Low-single-digit-percentage range increase
Free operating cash flow	€473 million	Between €0 million and €400 million
ROCE	+8.4%	Between 2% and 7%

Covestro Group

The following forecast for the 2020 fiscal year is based on the business development described in this Annual Report and takes into account the potential risks and opportunities:

The Board of Management of Covestro AG assumes that fiscal 2020 will continue to be characterized by a challenging market environment. This circumstance means persistent pressure on our liquidity and profitability. Even so, we expect demand for our products to rise. Over the medium term, we expect an improvement in the supply/demand situation and therefore an increase in margins.

We expect core volume growth in the low-single-digit-percentage range. This projection applies to the Covestro Group as well as to the Polyurethanes and Coatings, Adhesives, Specialties segments. Currently, we believe the Polycarbonates segment will perform somewhat better.

In fiscal 2020, we anticipate free operating cash flow (FOCF) of between €0 million and €400 million. For the Coatings, Adhesives, Specialties segment, we expect FOCF to be moderately above the prior-year level.

In 2020, we project return on capital employed (ROCE) of between 2% and 7%.

The forecast takes account of the negative impact of the coronavirus on business in China in the first quarter of 2020 that is foreseeable at the time of preparation (February 14, 2020). Beyond this, we cannot at present predict what impact this matter may have.

Covestro AG

The earnings of Covestro AG, as the parent company of the Covestro Group, largely comprise the earnings of that company's subsidiaries. Covestro Deutschland AG's earnings from equity investments in Germany and abroad are transferred to Covestro AG under a profit and loss transfer agreement. The earnings of Covestro AG are therefore expected to reflect the business development anticipated in the Covestro Group. On the whole, we expect Covestro AG to generate a net income significantly under the level of the previous year.

Opportunities and Risks Report

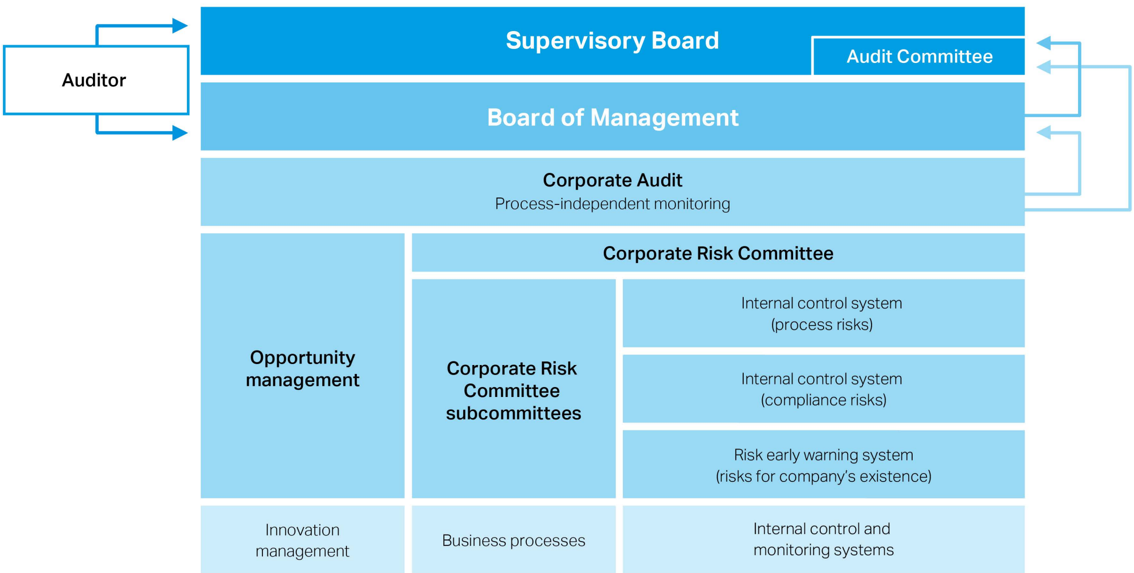
As a company with global operations, Covestro is exposed to opportunities and risks on a daily basis. Addressing these opportunities and risks therefore represents an integral part of our business operations. We regard a risk as a development or event in or outside the company that could lead to a negative deviation from forecasts or the Group's targets. Conversely, an internal or external development or event that could cause a positive change in forecasts or targets is considered an opportunity.

No risks that could endanger the Covestro Group's continued existence are currently identifiable.

Group-wide opportunities and risk management system

Conscientious management of risks and opportunities is part of responsible corporate governance and forms the basis for sustainable growth and financial success. This includes the ability to systematically identify and take advantage of opportunities while managing risks to the company's success. The entrepreneurial decisions we make daily in the course of business processes are based on balancing opportunities and risks. We therefore regard the management of our opportunities and risks as an integral part of our business management system rather than as the task of a specific organizational unit.

Opportunities and risk management system



Our opportunity and risk management begins with strategy and planning processes, from which relevant external and internal opportunities and risks of an economic, ecological or social nature are derived. Opportunities and risks are identified by observing and analyzing trends along with macroeconomic, industry-specific, regional and local developments. The identified opportunities and risks are subsequently evaluated and incorporated into our strategic and operational processes. We attempt to avoid or mitigate risks by taking appropriate countermeasures, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable. At the same time, we strive to take maximum advantage of opportunities by incorporating them into our entrepreneurial decisions. We consciously accept and bear manageable and controllable risks that are in reasonable proportion to the anticipated opportunities. We regard them as the general risks of doing business. Opportunities and risks are continuously monitored using indicators so that, for example, changes in the economic or legal environment can be identified at an early stage and suitable countermeasures can be initiated, if necessary.

To enable the Board of Management and the Supervisory Board to monitor material business risks as legally required, the following systems are in place: an internal control system ensuring proper and effective financial reporting pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code (HGB); a compliance management system; and a risk early warning system pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act (AktG).

The various management systems are based on different risk types, risk levels and timelines. Different processes, methods and IT systems are therefore applied to identify, evaluate, manage and monitor risks. The principles underlying the various systems are documented in Group policies that are integrated into our central document control processes and are accessible to all employees via the intranet. Covestro's Board of Management is responsible for managing the Group's risk management. The Chief Financial Officer of Covestro AG is responsible for the effectiveness and appropriateness of the system as a whole in accordance with the areas of responsibilities.

The various systems are described below.

Internal control system for (Group) accounting and financial reporting (Report pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code)

The purpose of our internal control system (ICS) is to ensure proper and effective accounting and financial reporting in accordance with Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code.

The ICS is designed to guarantee timely, uniform and accurate accounting for all business processes and transactions based on applicable statutory regulations, accounting and financial reporting standards, and the internal Group regulations that are binding on all consolidated companies.

The ICS concept is based on the Committee of the Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework (2013) and the Control Objectives for Information and Related Technology (COBIT) framework and is designed to address the risk of misreporting of the consolidated financial statements. Risks are identified and evaluated, and steps are taken to counter them. ICS standards mandatory throughout the Covestro Group, such as system-based and manual reconciliation processes and functional separation, have been derived from these frameworks and stipulated by Group Accounting.

The management of each Covestro Group company holds responsibility for implementing the ICS standards at the local level.

The effectiveness of the ICS processes for accounting and financial reporting is evaluated on the basis of a cascaded self-assessment system that starts with the persons directly involved in the processes, then involves the principal managers responsible for accounting and financial reporting and ends with Covestro AG's Board of Management. The IT systems in use throughout the Covestro Group ensure the uniform and audit-proof documentation and transparent presentation of the risks, controls, and effectiveness evaluations associated with all ICS-relevant business processes. It should generally be noted that, however carefully designed, an internal control system cannot provide absolute assurance that material misstatements in the accounting will be avoided or identified in a timely manner.

In accordance with the areas of responsibilities, the Chief Financial Officer of Covestro AG has confirmed the criteria and the effective functioning of the internal control system for accounting and financial reporting for fiscal 2019.

Internal control system to ensure compliance

Compliance risks are systematically identified and assessed as part of Covestro's Group-wide risk management. Risk owners assess the compliance risks that have been identified. A risk matrix is used to define focal points of compliance tasks at Covestro. The findings of a risk-based analysis enabled Covestro to identify three key topics: antitrust law, corruption, and foreign trade law. The General Counsel/Chief Compliance Officer is the risk owner responsible for "breaches of antitrust law" and "corruption," while the Export Control Officer is responsible for the risk of "breaches of foreign trade law." With respect to corruption, areas including gifts/invitations, contributions/sponsoring, and working relationships with certain business partners such as customs officials/sales agents were identified as being especially risk-relevant. A corruption risk analysis was performed for all Covestro companies. In the reporting period, policies on gifts/invitations, sales agents and relationships with officeholders were developed. They are being rolled out in all companies and are expected to be implemented by the end of the first quarter 2020.

Many controls have been implemented at both the global and local levels to reduce the number of compliance risks. To the extent possible, we integrate the compliance controls into our internal control system (ICS). In 2018, the controls aimed at preventing corruption were globally standardized and subsequently implemented in the reporting period. For instance, a compliance check was integrated into the travel expense system.

The effectiveness of the compliance controls is evaluated on the basis of a cascaded self-assessment system, as are the ICS processes for accounting and financial reporting. The results of the effectiveness evaluations are documented in the global system for the ICS processes. Corporate Audit carries out dedicated compliance checks at regular intervals in the larger companies. In the smaller companies, compliance aspects are part of a general review.

Risk early warning system
(Report pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act)

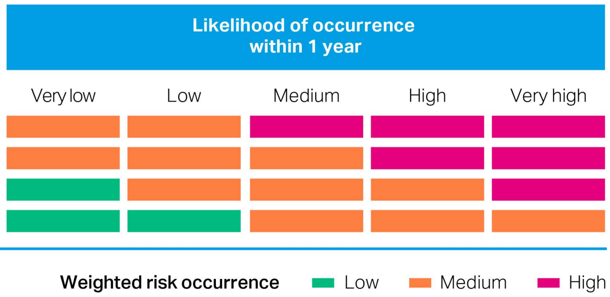
Covestro implemented a structured process for the early identification of any potentially disadvantageous developments that could have a material impact on the company or endanger its continued existence. This process satisfies the legal requirements regarding an early warning system for risks pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act. Covestro's risk management process is based on the international risk management standard COSO II Enterprise Risk Management – Integrated Framework (2004). A central unit defines, coordinates and monitors the framework and standards for this risk early warning system.

Throughout the year, various global subcommittees provide new and updated information about identified risks. The Covestro Corporate Risk Committee meets four times a year to review the risk landscape as well as the various risk management and monitoring mechanisms that are in place, and to take any necessary measures.

Risks are evaluated using estimates of the potential impact taking into account countermeasures, the likelihood of their occurrence and their relevance for our external stakeholders. All material risks and the respective countermeasures are documented in a company-wide database. The risk early warning system is reviewed regularly over the course of the year. Significant changes must be promptly entered in the database and reported to the Board of Management. In addition, a report on the risk portfolio is submitted to the Audit Committee several times a year and to the Supervisory Board at least once a year. The following matrix illustrates the direct financial and indirect financial criteria for rating a risk as high, medium or low.

Rating matrix

Indirect financial impact[1]	and/or	Accumulated impact[1] (€ million)
Critical		> 1,100
Significant		> 285–1,100
High		> 115–285
Moderate		≥ 60–115



[1] An individual risk that could have both a financial and indirect financial impact of different severities and is always classified based on the higher level of risk.

Criteria for the classification of indirect financial impact

Indirect financial impact			
Moderate	**High**	**Significant**	**Critical**
Moderate effect on achieving outcome objectives/national reporting	High effect on achieving outcome objectives/national reporting	Significant effect on achieving outcome objectives/major outlets reporting internationally	Critical effect on achieving outcome objectives/major outlets constantly reporting internationally

Process-independent monitoring

The effectiveness of our management systems is audited and evaluated at regular intervals by Corporate Audit, which performs an independent and objective audit focused on verifying compliance with laws and policies. Corporate Audit also supports the company in achieving its goals by systematically evaluating the efficiency and effectiveness of governance, risk management and control processes, and helping to improve them. The selection of audit targets follows a risk-based approach. Corporate Audit performs its tasks according to internationally recognized standards and delivers reliable audit services. A report on the internal control system and its effectiveness is presented annually to the Audit Committee of the Supervisory Board.

Risks in the areas of occupational health and safety, plant safety, environmental protection and product quality are assessed through specific HSEQ (health, safety, environment and quality) audits.

The external auditor assesses the early warning system for risks as part of its audit of the annual financial statements, focusing on whether the system is fundamentally suitable for identifying at an early stage any risks that could endanger the company’s continued existence so that suitable countermeasures can be taken. The auditor also reports at regular intervals to Covestro AG’s Board of Management and the Supervisory Board on the results of the audit and any weaknesses identified in the internal control system. Audit outcomes are also taken into account in the continuous improvement of our management processes.

Opportunities and risks

Overall assessment of opportunities and risks

The overall opportunity and risk position of the Group has not changed since the previous year. The risks reported in the following do not endanger the company's continued existence, nor could we identify any risk interdependencies that could combine to endanger the company's continued existence.

Based on our product portfolio, our know-how and our innovation capability, we are confident that we can use the opportunities resulting from our entrepreneurial activity and successfully master the challenges resulting from the risks stated below.

Opportunities and risks in general and in the company's business environment

Risks outlined below have material effects on the business situation, net assets, financial position and results of operations of our Group. In this context, risks are deemed material if the potential loss to Covestro is estimated at €60 million or more, and/or they have at least a moderate potential indirect financial impact regardless of their likelihood of occurrence. The likelihood of occurrence of the risks is used in internal control to define focus areas for the Corporate Risk Committee. The risks are more highly aggregated in this report than in our internal documentation. The following chart shows the levels of risk allocated to the individual risks within each category. The order in which the risks are listed does not imply any order of significance.

Risk categories

	Weighted risk occurrence		
	Low	Medium	High
Business environment			
Competition	●	●	
Cooperations/acquisitions	●		
Market growth	●	●	
Regulations/policies	●	●	
Company-specific environment			
Product stewardship	●	●	
Procurement	●	●	
Production/value creation	●	●	
Employees	●	●	
Information technology	●	●	
Law/compliance	●	●	

Business environment

General economic conditions worldwide and, in particular, in the geographic regions in which Covestro operates are a key factor affecting the company's earnings given that their effect on the industries in which Covestro's direct and indirect customers operate impacts demand for our company's products.

Negative economic developments typically have a negative impact on the sales markets for our products, which usually results in decreases in sales volumes and adversely impacts earnings. However, the extent of the impact of economic developments on sales volumes and earnings also depends on capacity utilization rates in the industry, which in turn, depend on the balance between supply and demand for the industry's products. Decreases in demand lead to lower sales volumes and, ultimately, to reduced capacity utilization, which negatively impacts margins. Conversely, a positive economic environment characterized by growth and upward trends usually leads to improved business success.

Historically, the markets for most of our products have experienced periods of tight supply, causing prices and profit margins to increase. Periods of significant capacity additions, however, resulted in oversupply and declining prices and profit margins. These shifting supply cycles are often caused by capacity additions of new world-scale production facilities or the expansion of existing production facilities, which are necessary to create or sustain economies of scale in the industry segments, and the decline of industry-wide utilization rates that often follows capacity additions.

An economic downturn, changes in competitors' behavior or the emergence of new competitors can lead to greater competition and, as a result, overcapacities in the market or increased pressure on prices.

The international nature of Covestro's business exposes it to substantial changes in economic, political and social conditions, and the resulting statutory requirements of the countries in which Covestro operates. The associated opportunities and risks can have both a positive and negative effect on the company's business and significantly influence its prospects.

Where it appears strategically advantageous, we supplement our organic growth by acquiring companies or parts of companies. Exploiting potential synergies or economies of scale can positively impact the company's success. However, failure to successfully integrate a newly acquired business or unexpectedly high integration costs could jeopardize the achievement of qualitative or quantitative targets and adversely impact earnings. To avoid this, Covestro makes use of support by teams of experts for the due diligence and integration processes, if needed. Due diligence also includes, for example, reviewing risk-relevant factors such as compliance with applicable environmental regulations and occupational health and safety standards at production sites.

Further opportunities and risks may also arise if actual market developments vary from those we predict in the "Economic Outlook" section. Where macroeconomic developments deviate from forecasts, this may either positively or negatively impact our sales and earnings expectations. Continuous analysis of the economic environment and of economic forecasts enables us to utilize the identified opportunities and to mitigate risks by adjusting our business strategy.

Innovation

We continually analyze global trends and develop innovative solutions to address them, thereby mastering the challenges and taking advantage of the opportunities that these trends provide.

One example of the opportunities created by innovation is additive manufacturing, also known as 3D printing. This is a new market with growth potential for our products. Covestro is an established player in the polymer industry segment and has in-depth technological expertise in this area. This makes us well positioned to generate added value for our company through advances in additive manufacturing.

Customers are increasingly choosing sustainable products as a result of a growing environmental awareness and interest in environmental protection. A key focus of Covestro's strategy is sustainability and efficient production. Our product portfolio offers sustainable solutions for different areas of everyday life. We therefore see an opportunity here to expand our relevant market shares and to grow in these segments.

The finite nature of natural resources and efforts to protect the climate are boosting the demand for innovative products and technologies that reduce resource consumption and lead to lower emissions. This trend is being reinforced by increasingly stringent regulatory requirements and growing consumer awareness for the need to use resources sustainably. Covestro is therefore developing new materials that help to raise energy efficiency and reduce emissions. For example, the polyurethane manufactured by the company is used in the construction industry for thermal insulation, thus improving the positive energy balance, while its polycarbonate is used in the automotive industry to reduce vehicle weight and thus fuel consumption.

Ongoing technological advancements are changing the world we live in and the way we do business. By utilizing cutting-edge digital technologies, we expect to holistically add value across the value chain by optimizing supply chain, leveraging growth, and developing new business models.

Product stewardship

The Covestro Group is exposed to the risk of negative publicity, press speculation, and potential or actual legal proceedings concerning its business, which may harm its reputation. The development of a negative social perception of the chemical industry in general or Covestro's processes, products or external communications in particular could also have a negative impact on the company. The incorrect use and handling of our products by third parties can also harm the company's reputation.

In addition, concerns about product safety and environmental protection could influence public perceptions regarding Covestro's products and operations, the viability of certain products, its reputation, and the ability to attract and retain employees. Due to the technical expertise required to fully understand the possible impacts of the chemical constituents of our products, the company's reputation may suffer due to claims that such compounds are of a harmful nature, even if these claims can be disproved by experts. Such statements may lead to changes in consumer preferences or additional governmental regulations even before any harm is scientifically substantiated and possibly despite scientific evidence to the contrary.

Procurement

Our Supplier Code of Conduct sets forth our sustainability principles and explains what we expect from our partners along the value chain. The Code requires that our suppliers comply with environmental regulations as well as occupational health and safety rules, respect human rights and therefore, for example, avoid child labor in any form. Violations of the Code may harm our company's reputation. Through supplier assessments and audits, we verify whether our partners along the supply chain actually implement and adhere to our Code of Conduct. Covestro's Supplier Code of Conduct is based on the principles of the United Nations Global Compact and our human rights position.

Covestro requires significant quantities of different energy forms and petrochemical feedstocks for production processes. Procurement prices for these forms of energy and raw materials may fluctuate significantly due to market conditions or legislation. Experience from the past has shown that higher production costs cannot always be passed on to our customers through price adjustments. Conversely, lower raw materials prices that do not directly reduce the selling price by the full amount can lead to improved margins.

We purchase important raw materials based on long-term supply agreements and pursue active supplier management to minimize procurement-related risks such as supply shortages or substantial price fluctuations. In steam and electricity generation, we aim for market-based price indexing, a diversification of fuels and a mix of external procurement and captive production to minimize the risk of fluctuating energy prices.

Production and value creation

We place great importance not only on product safety but also on protecting our employees and the environment. Risks associated with the production, filling, storage or shipping of products are mitigated through integrated quality, health, environmental protection as well as safety management. The materialization of such risks may result in personal injury, property and environmental damage, loss of production, business interruptions as well as liability for compensation payments.

Covestro uses large quantities of hazardous substances, generates hazardous wastes and emits wastewater and air pollutants in its production operations. Consequently, its operations are subject to extensive environmental, health and safety (EHS) laws, regulations, rules and ordinances at the international, national and local levels in multiple jurisdictions. The company must dedicate substantial resources to complying with these EHS regulations and the additional voluntary commitments. Costs relating to the implementation of and compliance with EHS requirements are part of Covestro's operating costs and must therefore be covered by the prices at which the company is able to sell its products. Competitors of Covestro that are not affected by equally strict EHS requirements to the same extent may have lower operating costs and, as a consequence, their products may be priced lower than those of Covestro.

Operations at our sites may be disrupted by external influences such as natural disasters, fires/explosions, sabotage, or supply shortages for our principal raw materials or intermediates. To the extent possible and economically feasible, we mitigate these risks by distributing production for certain products among multiple sites and by building up safety stocks. Furthermore, a security and crisis management system has been implemented for all our production sites as a mandatory component of our HSEQ (health, safety, environment, quality) management. It is aimed at protecting employees, neighbors, the environment and production facilities from the risks described. The Group Regulation "Security and Crisis Management" forms the basis for this.

Covestro operates in markets with a relatively balanced supply and demand situation. However, in the event of planned or unplanned closures, interruptions or even the elimination of one of our competitors, Covestro may have the opportunity to take over customers and cover their demand.

Increased ecological awareness creates opportunities for Covestro in two ways. On the one hand, the development of innovative materials for our customers opens up market potential. On the other hand, if we succeed in increasing the energy efficiency of our own production processes, we can mitigate environmental impacts and achieve cost savings at the same time. By developing new production technologies and applying internationally recognized energy management systems, we aim to help meet increasing environmental requirements, further reduce emissions and waste, and increase energy efficiency. In this way, we not only contribute to sustainable climate protection and the conservation of natural resources, but also achieve cost and competitive advantages.

Organic growth through investment may involve risks as it relates to the overall project scope, location and timing. These risks are addressed through established processes that involve a variety of internal and external stakeholders. A robust investment assessment process helps to ensure that we are capitalizing on organic growth opportunities at the right time. These projects are reviewed throughout the project timeline so that any potential changes in the market situation are considered, enabling us to react in a timely manner, if necessary.

Employees

Skilled and dedicated employees are essential for the company's success. In countries with full employment, there is keen competition among companies for highly qualified personnel and employees in key positions in particular. If we are unable to recruit a sufficient number of employees in these countries and retain them within Covestro, this could have significant adverse consequences for the company's future development.

We are planning appropriate employee recruitment and development measures based on the analysis of future requirements. We aim to convince our target groups of the advantages of working for Covestro through comprehensive human resources marketing, including an employer branding campaign. Our human resources policies are based on the principles enshrined in our human rights position, the Corporate Compliance Policy and our corporate values. Essential elements include competitive compensation containing performance-related components as well as an extensive range of training and development opportunities. In addition, our focus on diversity enables us to tap the full potential of the employment market.

Covestro depends on good relations with its employees, unions and employee representatives to avoid industrial action, implement restructurings and amend existing collective agreements, and to negotiate reasonable and fair wages as well as other key working conditions.

Information technology

Business and production processes as well as the internal and external communications of the Covestro Group are increasingly dependent on global IT systems. A significant technical disruption or failure of IT systems could severely impair our business and production processes. Technical precautions such as data recovery and continuity plans are defined and continuously updated in close cooperation with our internal IT organization.

The confidentiality of internal and external data is of fundamental importance for Covestro. A loss of data confidentiality, integrity or authenticity could lead to manipulation and/or the uncontrolled outflow of data and expertise. We have measures in place to counter these risks, including a sophisticated authorization system.

Furthermore, a Group-wide committee was established to determine the fundamental strategy, architecture and IT safety measures for the Covestro Group. These measures are designed to guarantee optimum protection based on state-of-the-art technology.

Law and compliance

Ethical conduct is a matter of essential importance for society. Many stakeholders evaluate companies according to whether they conduct themselves not just “legally” but also “legitimately.” The Covestro Group is committed to sustainable development in all areas of its commercial activity. Any violations of this voluntary commitment can result in adverse media reporting and thus lead to a negative public perception of the Covestro Group. We counter this risk through responsible corporate management that is geared toward generating not only economic but also ecological and societal benefit.

The Covestro Group is exposed to risks from legal disputes or proceedings to which we are currently a party or that could arise in the future, particularly in the areas of product liability, competition and antitrust law, patent law, tax law and environmental protection.

Investigations of possible legal or regulatory violations, such as potential infringements of antitrust law or the use of certain marketing and/or sales methods, may result in the imposition of civil or criminal penalties – including substantial monetary fines – and/or other adverse financial consequences. They can also harm Covestro’s reputation and ultimately hamper our commercial success.

Legal proceedings currently considered to involve material risks are described in note 26 “Legal Risks” in the Notes to the Consolidated Financial Statements.

Financial opportunities and risks

The Covestro Group is exposed to liquidity risks, foreign currency and interest-rate opportunities and risks, credit risks and risks resulting from obligations for pensions and other post-employment benefits. Appropriate processes to manage financial opportunities and risks have been established and documented. One component of this is financial planning, which serves as the basis for establishing liquidity needs and foreign currency risk. Financial planning comprises a planning horizon of 12 months and is regularly updated.

The section below presents the financial risks material to the Covestro Group – independent of their likelihood of occurrence.

Liquidity risk

Liquidity risk is the risk of not being able to meet existing or future payment obligations. The liquidity status of all material Group companies is continuously planned and monitored. Liquidity is secured by cash pooling agreements as well as internal and external financing. A syndicated revolving credit facility offers additional financial flexibility.

Foreign currency opportunities and risks

For the Covestro Group, foreign currency opportunities and risks result from changes in exchange rates and the related changes in value.

Material receivables and payables in liquid currencies from operating and financial activities are fully hedged through forward exchange contracts.

Anticipated foreign currency exposures were not hedged in the reporting year. These exposures are also hedged using forward exchange contracts if the foreign currency risk increases significantly.

Interest rate opportunities and risks

Interest rate opportunities and risks for the Covestro Group result from changes in capital market interest rates, which could lead to changes in the fair value of fixed-rate financial instruments and in interest payments in the case of floating-rate instruments. To minimize adverse effects, interest rate risk is managed centrally based on an optimized debt maturity structure.

Credit risks

Credit risks arise from the possibility that the value of receivables or other financial assets of the Covestro Group may be impaired because counterparties cannot meet their payment or other performance obligations.

To manage credit risks from receivables, credit managers are appointed who regularly analyze customers' creditworthiness and set credit limits. The Covestro Group does not conclude master netting agreements with its customers for nonderivative financial instruments. Here, the total value of the financial assets represents the maximum credit risk exposure. In the case of derivatives, positive and negative market values may be netted given the corresponding master netting agreements.

Risk to pension obligations from capital market developments

The Covestro Group has obligations to current and former employees related to pensions and other post-employment benefits. Changes in relevant measurement parameters such as interest rates, mortality rates and salary increase rates may raise the present value of these obligations, resulting in increased costs for pension plans. A proportion of the Covestro Group's pension obligations is covered by plan assets. Declining or even negative returns on the investment of the plan assets may adversely affect their future fair value. Both these effects may negatively impact the company's earnings and may necessitate additional payments by the company.

We address the risk of market-related fluctuations in the value of plan assets through balanced strategic investments and by constantly monitoring investment risks with regard to pension obligations.

CORPORATE GOVERNANCE REPORT

Covestro's corporate governance is characterized by a sense of responsibility as well as ethical principles. Covestro places great importance on responsible corporate governance. This promise to stockholders, business partners and employees is based on our commitment to the German Corporate Governance Code (GCGC) and the Articles of Incorporation that reflect these standards. In pursuing our business activities, we follow company principles that exceed the requirements of the law and the German Corporate Governance Code. A key concern is combining business success with environmental and social goals, so when making any business decision, we always consider the three dimensions of sustainability – people, planet, profit. The principles guiding our actions, which are also based on these dimensions, are documented in six policies applicable throughout the Group. These provide our employees with guidance in the areas of value creation, sustainability, innovation, human resources, HSEQ (Health, Safety, Environment and Quality) and compliance. The standards contained in these policies are mandatory for all employees worldwide.

Additional information is available at: www.covestro.com/en/sustainability/service-downloads/policies-commitments

The Board of Management and Supervisory Board issued the current Declaration of Conformity with the GCGC pursuant to Section 161 of the German Stock Corporation Act (AktG) in October 2019. In this Declaration, Covestro AG affirms that it fulfills all of the recommendations of the GCGC in the February 7, 2017, version applicable in the fiscal year under review. The Board of Management and Supervisory Board provide information pertaining to corporate governance pursuant to Section 3.10 GCGC in the sections that follow, including a Declaration on Corporate Governance for Covestro AG pursuant to Section 289f and for the Covestro Group pursuant to Section 315d of the German Commercial Code (HGB). The contents of the Corporate Governance Report also comprise part of the combined management report. Pursuant to Section 317, Paragraph 2, Sentence 6 HGB, the disclosures in the Declaration on Corporate Governance are not included in the audit. In addition, the Compensation Report is part of the Corporate Governance Report. The full Corporate Governance Report, supplementary information on the Board of Management and Supervisory Board, and prior-year declarations of conformity with the GCGC are published on our website.

Further information at: www.covestro.com/en/company/management/corporate-governance

Declaration on Corporate Governance

The Board of Management and Supervisory Board issued a Declaration of Conformity in October 2019 that is posted on Covestro's website.

In the year under review, Covestro AG was in compliance with all recommendations of the "Government Commission on the German Corporate Governance Code" as published by the Federal Ministry of Justice and Consumer Protection in the official section of the Federal Gazette (Bundesanzeiger), and will remain so in the future.

Covestro AG also complies with all of the suggestions in the GCGC.

Declaration of Conformity (in accordance with the German Corporate Governance Code)

Declaration by the Board of Management and Supervisory Board concerning the German Corporate Governance Code (February 7, 2017 version) pursuant to Section 161 of the German Stock Corporation Act (AktG)

Since the last Declaration of Conformity as of December 2018, Covestro AG has complied with all recommendations of the German Corporate Governance Code in the version of February 7, 2017, and will comply with them in the future.

Leverkusen, October 2019

For the Board of Management:	For the Supervisory Board:
Dr. Markus Steilemann	Dr. Richard Pott

Composition, duties and activities of the Board of Management and Supervisory Board

Board of Management

Duties and activities of the Board of Management

The Board of Management runs the company on its own responsibility with the goal of sustainably increasing the company's enterprise value and achieving defined corporate objectives. In doing so, it takes into account the interests of stockholders, employees and other stakeholders. The Board of Management performs its tasks according to the law, the Articles of Incorporation, the Board of Management's rules of procedure, and the recommendations of the GCGC as stated in the Declaration of Conformity. It ensures compliance with the law and internal company policies, and works with the company's other governance bodies in a spirit of trust.

The current rules of procedure of the Board of Management are available at:
www.covestro.com/en/company/management/corporate-governance

The Board of Management defines the long-term goals and strategies for the company and sets forth the principles and policies for the resulting corporate policies. Furthermore, it coordinates and monitors the most important activities, defines the company's portfolio, develops and deploys managerial staff, allocates resources and decides on the financial steering and reporting of the Covestro Group.

The members of the Board of Management bear joint responsibility for running the business as a whole. However, the individual members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the full Board. The allocation of duties among the members of the Board of Management is defined in a written schedule appended to its rules of procedure.

The full Board of Management makes decisions on all matters of fundamental importance and in cases where a decision of the full Board is prescribed by law or otherwise mandatory. The rules of procedure of the Board of Management contain a list of topics that must be dealt with and resolved by the full Board.

Board of Management meetings are held regularly and are convened by the Chair of the Board of Management. Any member of the Board of Management may also demand that a meeting be convened, notifying the other members of the matter for discussion. The Board of Management makes decisions by a simple majority of the votes cast, except where unanimity is required by law. In the event of a tie, the Chair has the casting vote.

According to the Board of Management's rules of procedure and schedule of duties, the Chair bears particular responsibility for coordinating all Board of Management areas. The Chair represents the Board of Management as well as Covestro AG and the Group in dealings with the public and other third parties.

Composition of the Board of Management

Under the schedule of duties, each Board member is assigned responsibility for particular duties and areas. The Board of Management members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the full Board. The Chair of the Board of Management is appointed by the Supervisory Board. The Board of Management currently has no committees.

Areas of responsibility[1]

Name	Position	Areas of responsibility	Memberships on supervisory boards and memberships in comparable supervising bodies of German or foreign corporations
Dr. Markus Steilemann	Chief Executive Officer	• Communications • Corporate Audit • Human Resources • Strategy • Sustainability	
Sucheta Govil	Chief Commercial Officer	• Polyurethanes • Polycarbonates • Coatings, Adhesives, Specialties • Central Marketing • Innovation Management & Commercial Services • Supply Chain Center EMLA • Supply Chain Center NAFTA • Supply Chain Center APAC	Independent Non-Executive Director of Eurocell plc (United Kingdom)
Dr. Klaus Schäfer	Chief Technology Officer	• Global Project Engineering • Health, Safety, Environment & Quality • Production & Technology • Procurement • Site Management NRW • Site Management Baytown • Site Management Shanghai	Member of the Supervisory Board of TÜV Rheinland AG (since June 2019)
Dr. Thomas Toepfer	Chief Financial Officer Labor Director	• Accounting • Controlling • Finance • Information Technology • Investor Relations • Law, Intellectual Property & Compliance • Portfolio Development • Taxes	

[1] As of December 31, 2019

Objectives and concept for the composition of the Board of Management

Assisted by the Human Resources Committee and the Board of Management, the Supervisory Board arranges long-term succession planning for individual Board of Management members. It conducts a systematic process for selecting candidates for the Board of Management, while following the recommendations of the GCGC. In accordance with Covestro's corporate values, it also observes the diversity principle, i.e. balancing the Board's composition in terms of age, educational and professional background as well as a balanced ratio of male and female members. The Board of Management as a whole should represent a variety of backgrounds and possess extensive experience in corporate strategy, innovation, production and technology, marketing and sales, finance, leadership and sustainability management.

When filling specific Board of Management positions, the Supervisory Board also develops a skills profile that is based on the diversity criteria and used to evaluate candidates from within and outside the company. Decisions are made in the company's interest and taking into account all of the circumstances of each individual case.

Implementation status of the objectives

Covestro AG's Board of Management currently has four members. The goals regarding age structure and function-specific expertise were generally met in fiscal 2019. The Board of Management meets the education and professional background requirements. The Board of Management's members ranged in age from 47 to 57 in fiscal 2019. As a whole, the Board of Management features members with a range of different educational backgrounds. In particular, they possess many years of experience in the following areas: engineering, physics and chemistry, business administration and finance. The members of the Board of Management have extensive professional experience in Germany and abroad as well as in the petroleum and chemical industries. In the course of their careers, they have held leadership positions in marketing and sales, corporate strategy, production and technology, and finance, among others, and possess extensive experience in human resources management and project management.

Promotion of equal participation of women and men in leadership positions

The German Law on Equal Participation of Women and Men in Leadership Positions in the Private and Public Sectors of May 24, 2015, requires certain companies in Germany to define target quotas for appointing women to their Supervisory Boards, and Boards of Management and the two management levels below, and to establish dates by which this quota is to be achieved in each case.

In accordance with Section 96, Paragraph 2 AktG, the Supervisory Board of a company which is both listed and subject to codetermination rules should be composed of at least 30% women and at least 30% men. As of December 31, 2019, the Supervisory Board of Covestro AG comprised four women and eight men. The minimum legal requirement has thus been met.

At the end of the first target attainment period on June 30, 2017, the Supervisory Board decided on a target quota of at least 40% for women on the Board of Management of Covestro AG and an implementation period through June 30, 2022. As of December 31, 2019, one woman and three men served on the Board of Management. Women therefore made up 25% of the Board of Management.

In addition, in 2017 the Board of Management set new targets for the first two management levels below the Board of Management. For the period until June 30, 2022, the goal of Covestro AG and the Covestro Group is to achieve a minimum of 30% women at both levels.

Targets for Covestro AG and the Covestro Group

	Covestro AG		Covestro Group	
	Status quo (Dec. 31, 2019)	Target (by June 30, 2022)	Status quo (Dec. 31, 2019)	Target (by June 30, 2022)
Management level 1[1]	0%	30%	7%	30%
Management level 2[2]	31%	30%	23%	30%

[1] Direct reports to the Board of Management with management responsibilities
[2] Direct reports to management level 1 with management responsibilities

Supervisory Board

Duties and activities of the Supervisory Board

The Supervisory Board advises and oversees the Board of Management. The Supervisory Board is directly involved in decisions on matters of fundamental importance to the company, regularly conferring with the Board of Management on the strategic alignment of Covestro AG and the Covestro Group, and on the implementation status of the business strategy. The Supervisory Board Chair coordinates its work and presides over the meetings. The Chair also represents the Supervisory Board outside the company and, in this capacity, is generally prepared to conduct Supervisory Board-specific discussions with investors. In accordance with the Articles of Incorporation, the Supervisory Board has issued rules of procedure governing its activity. These rules of procedure are applicable to the Supervisory Board as a whole as well as to individual Supervisory Board committees. They also include rules concerning the composition and work of the committees.

Rules of procedure for the Supervisory Board are available at:
www.covestro.com/en/company/management/corporate-governance

The Board of Management informs the Supervisory Board about business policy, corporate planning and strategy in regular and open discussions. The Supervisory Board approves the annual budget and financing framework. It also approves the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group, along with the combined management report, taking into account the auditor's reports and explanations. The Supervisory Board also regularly meets without the Board of Management in attendance. Employee representatives often hold discussions with members of the Board of Management prior to Supervisory Board meetings.

Composition of the Supervisory Board

The Supervisory Board has 12 members, half of whom are stockholder representatives and half employee representatives pursuant to the German Codetermination Act. The six members representing employees comprise four Covestro employees and two union representatives. The stockholder representatives are elected individually by the Annual General Meeting.

The Supervisory Board discussed the requirements stipulated by Section 100, Paragraph 5 AktG. Based on its composition, the Supervisory Board as a whole has in-depth industry expertise in the chemical and polymer sector in which Covestro operates. This industry knowledge was acquired by the members either through their jobs or the requisite continuing education.

Supervisory Board

Name/function	Membership on the Supervisory Board	Position	Memberships on other supervisory boards and memberships in comparable supervising bodies of German or foreign corporations
Dr. Richard Pott (Chair)	Member of the Supervisory Board since August 2015	• Former Member of the Board of Management and Labor Director of Bayer AG	• Chair of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Freudenberg SE • Member of the Supervisory Board of SCHOTT AG
Petra Kronen (Vice Chair)	Member of the Supervisory Board since October 2015	• Chair of the Works Council of Covestro at the Uerdingen site • Chair of the General Works Council of Covestro • Vice Chair of Covestro-European Forum • Employee of Covestro Deutschland AG	• Vice Chair of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Bayer Beistandskasse VVaG
Ferdinando Falco Beccalli	Member of the Supervisory Board since October 2015	• Chair of the Board of Falco Enterprises AG • Chair of the Board of Falco Holding SA • Chair of the Board of Falco Capital AG	• Member of the Supervisory Board of Covestro Deutschland AG
Dr. Christine Bortenlänger	Member of the Supervisory Board since October 2015	• Executive Member of the Board of Deutsches Aktieninstitut e.V.	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of MTU Aero Engines AG • Member of the Supervisory Board of OSRAM GmbH • Member of the Supervisory Board of OSRAM Licht AG • Member of the Supervisory Board of TÜV SÜD AG
Johannes Dietsch	Member of the Supervisory Board since August 2015	• Member of the Board of Management of thyssenkrupp AG (since February 2019)	• Member of the Supervisory Board of Covestro Deutschland AG
Peter Hausmann	Member of the Supervisory Board until December 2019	• Secretary of the German Mining, Chemical and Energy Industrial Union (IG BCE)	• Member of the Supervisory Board of Covestro Deutschland AG (until December 2019) • Vice Chair of the Supervisory Board of 50Hertz Transmission GmbH (until January 2020)
Irena Küstner	Member of the Supervisory Board since October 2015	• Chair of the Works Council of Covestro at the Leverkusen site • Chair of the Group Works Council of Covestro • Vice Chair of the General Works Council of Covestro • Employee of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG
Dr. Ulrich Liman	Member of the Supervisory Board since January 2018	• Chair of the Managerial Employees' Committee of Covestro Deutschland AG • Manager of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG
Prof. Dr. Rolf Nonnenmacher	Member of the Supervisory Board since August 2015	• Member of various supervisory boards	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Continental AG • Member of the Supervisory Board of ProSiebenSat.1 Media SE
Regine Stachelhaus	Member of the Supervisory Board since October 2015	• Former Member of the Board of Management and Labor Director of E.ON SE	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of CECONOMY AG • Member of the Supervisory Board of Leoni AG (since November 2019) • Member of the Supervisory Board of SPIE Deutschland und Zentraleuropa GmbH • Director of SPIE SA, France • Nonexecutive director of ComputaCenter plc, United Kingdom (until May 2019)
Marc Stothfang	Member of the Supervisory Board since February 2017	• Chair of the Works Council of Covestro at the Brunsbüttel site • Chair of Covestro-European Forum • Employee of Covestro Deutschland AG	
Frank Werth	Member of the Supervisory Board since September 2016	• District Manager of the German Mining, Chemical and Energy Industrial Union (IG BCE) – district Leverkusen	• Member of the Supervisory Board of Covestro Deutschland AG

Supervisory Board

Name/function	Membership on the Supervisory Board	Position	Memberships on other supervisory boards and memberships in comparable supervising bodies of German or foreign corporations
Petra Reinbold-Knape	Member of the Supervisory Board since January 2020	• Member of the Executive Committee of the German Mining, Chemical and Energy Industrial Union (IG BCE)	• Member of the Supervisory Board of Covestro Deutschland AG (since January 2020) • Member of the Supervisory Board of Bayer AG • Vice Chair of the Supervisory Board of Lausitz Energie Kraftwerke AG • Vice Chair of the Supervisory Board of Lausitz Energie Bergbau AG

Committees of the Supervisory Board

The Supervisory Board currently has the following committees:

Presidial Committee: The Presidial Committee comprises the Supervisory Board Chair and Vice Chair along with a further stockholder representative and a further employee representative. The Executive Committee serves primarily as the mediation committee pursuant to the German Codetermination Act. It has the task of submitting proposals to the Supervisory Board on the appointment of members of the Board of Management if the necessary two-thirds majority is not achieved in the first vote at a plenary meeting. Certain decision-making powers in connection with capital measures, including the power to amend the Articles of Incorporation, have also been delegated to this committee.

Members: Dr. Richard Pott (Chair), Peter Hausmann (until December 2019), Petra Kronen, Regine Stachelhaus and Petra Reinbold-Knape (since February 2020)

Audit Committee: The Audit Committee comprises three stockholder representatives and three employee representatives. The Chair of the Audit Committee in the reporting year, Prof. Dr. Rolf Nonnenmacher, satisfies the statutory requirements concerning expertise in the field of accounting or auditing that at least one member of the Supervisory Board and the Audit Committee is required to possess and is independent pursuant to Section 5.4.2 GCGC. The Audit Committee meets four times a year. It monitors the accounting and financial reporting process and is responsible for examining the financial statements, consolidated financial statements and management reports, and for discussing the quarterly and half-yearly reporting with the Board of Management. On the basis of the auditor’s report, the Audit Committee develops proposals for resolutions by the Supervisory Board relating to the confirmation of the financial statements, the approval of the consolidated financial statements and the use of the distributable profit.

The Audit Committee is also responsible for the company’s relationship with the external auditor. It submits a proposal to the full Supervisory Board concerning the auditor’s appointment and may award the audit contract to the audit firm appointed on behalf of the Supervisory Board and agree the auditor’s remuneration. It also suggests areas of focus for the audit and monitors the quality of the audit as well as the independence and qualifications of the auditor. To this end, the Audit Committee has obtained a statement of independence from the auditor. The auditor is required to immediately inform the Audit Committee about all possible grounds for exclusion or lack of impartiality arising during the audit or review, and all findings and incidents material to the Supervisory Board’s responsibilities, particularly suspected accounting irregularities. Moreover, the Audit Committee has requested that the auditor inform the Committee and make a note in the audit report if facts are identified during the financial statement audit process that indicate an error in the Declaration of Conformity with the German Corporate Governance Code submitted by the Board of Management and Supervisory Board.

In addition, the Audit Committee monitors the effectiveness of the internal control system, the risk management system, the internal audit system and the compliance function.

Members: Prof. Dr. Rolf Nonnenmacher (Chair), Johannes Dietsch, Peter Hausmann (until December 2019), Petra Kronen, Irena Küstner, Dr. Richard Pott and Petra Reinbold-Knape (since January 2020)

Human Resources Committee: On this committee, too, there is parity of representation between stockholders and employees. It consists of the Supervisory Board Chair and three other members. The Human Resources Committee prepares the personnel decisions of the full Supervisory Board, which resolves on appointments or dismissals of members of the Board of Management. The Human Resources Committee resolves on behalf of the Supervisory Board on the service contracts of the members of the Board of Management. However, it is the task of the full Supervisory Board, based on the recommendations submitted by the Human Resources Committee, to resolve on the total compensation of the individual members of the Board of Management and the respective compensation components, as well as to regularly review the compensation system. The Human Resources Committee also discusses the long-term succession planning for the Board of Management.

Members: Dr. Richard Pott (Chair), Johannes Dietsch, Petra Kronen and Dr. Ulrich Liman

Nominations Committee: This committee carries out preparatory work when an election of stockholder representatives to the Supervisory Board is to be held. It suggests suitable candidates for the Supervisory Board to propose to the Annual General Meeting for election. The Nominations Committee comprises the Supervisory Board Chair, another stockholder representative on the Executive Committee and an elected stockholder representative.

Members: Dr. Richard Pott (Chair), Ferdinando Falco Beccalli and Regine Stachelhaus

In its report, the Supervisory Board provides detailed information about the work of the Supervisory Board and its committees.

Objectives for the composition of the Supervisory Board and diversity concept

The Supervisory Board should be composed in such a way that its members jointly possess the necessary expertise, skills and professional experience to properly perform their duties, and are sufficiently independent. The Supervisory Board assesses the independence of its members according to the recommendation contained in Section 5.4.2 GCGC.

Covestro AG's Supervisory Board has agreed the following specific goals for its composition that align with the recommendations of the GCGC and at the same time provide for diversity in terms of age, independence and professional experience:

- The Supervisory Board has resolved that 75% of its members and more than half of the stockholder representatives on the Supervisory Board are to be independent.
- Absent of special circumstances, a Supervisory Board member shall not serve more than three full terms of office and shall not hold office beyond the end of the next Annual General Meeting following his or her 72nd birthday.
- The Supervisory Board shall not include more than two former members of the company's Board of Management. Supervisory Board members may not perform executive functions or consulting activities for major competitors of the company or any Group company, and they must not be exposed to other significant conflicts of interest.
- At least two Supervisory Board members must have function-specific knowledge in each of the following areas:
  - Accounting and/or auditing
  - Strategy, mergers and acquisitions, capital markets
  - Marketing, sales, supply chain
  - Research and development, innovation
  - Technology, digitalization
  - Human resources, change management
  - Corporate governance, compliance

- The Supervisory Board must have at least two members with experience in industries, sales markets and/or divisions of importance to Covestro, e.g. (polymer) chemistry, production and technology.
- Taking into account the specific situation and international operations of Covestro and its affiliated companies, the Supervisory Board shall strive to ensure sufficient diversity among its members. Moreover, at least three members should have managerial experience in an international enterprise and/or experience serving on other supervisory boards or supervisory bodies.

The objectives described refer to the Supervisory Board as a whole unless resolved otherwise. However, since the Supervisory Board can only nominate candidates for election as stockholder representatives, it can only consider the objectives in making these nominations.

Implementation status of the objectives

The Supervisory Board has several members with international business experience and an international background. The objectives pertaining to age limits, length of service and independence are being met. In the opinion of the Supervisory Board, the stockholder representatives Dr. Richard Pott, Ferdinando Falco Beccalli, Dr. Christine Bortenlänger, Johannes Dietsch, Prof. Dr. Rolf Nonnenmacher and Regine Stachelhaus are independent pursuant to the GCGC. The requirements for function-specific knowledge are generally being met, but the specific goal of having at least two stockholders per field of expertise is not fulfilled in all areas.

Information about Covestro AG's current Supervisory Board members is available on our website at: www.covestro.com/en/company/management/supervisory-board

Stockholdings and reportable securities transactions by members of the Board of Management or Supervisory Board

In the year under review, members of the Board of Management and Supervisory Board and their close relatives are legally required to disclose all transactions involving the purchase or sale of Covestro AG securities where such transactions total €5,000 or more in a calendar year. Covestro publishes details of such transactions immediately on its website and also notifies the German Federal Financial Supervisory Authority accordingly. This information is provided to the company register for archiving.

Further Information on securities transactions by members of the Board of Management or Supervisory Board can be found at: www.covestro.com/en/investors/stock-details/disclosure-of-securities-transactions

Systematic risk management

Our enterprise risk management system ensures early identification of any financial or nonfinancial risks. We attempt to avoid or mitigate identified risks, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable.

The internal control system (ICS) for accounting and financial reporting enables the timely monitoring of risks to prevent or correct potential errors in accounting for business transactions. It thus ensures the availability of reliable data on the company's financial situation.

However, the control and risk management system cannot provide absolute protection against losses arising from business risks or fraudulent actions.

Detailed reporting

We provide regular and timely information on the Covestro Group's position and significant changes in business activities to stockholders, financial analysts, stockholders' associations, the media and the general public to maximize transparency. Four times a year we report to our stockholders about the company's business performance, its net assets, financial position and results of operations, and the risks it faces. Our company's reporting thus complies with the provisions of the GCGC.

In line with statutory requirements, the members of the company's Board of Management provide an assurance that, to the best of their knowledge, the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, and the combined management report provide a true and fair view.

The financial statements of Covestro AG, the consolidated financial statements of the Covestro Group and the combined management report are published within 90 days following the end of each fiscal year. During the fiscal year, Covestro additionally informs stockholders and other interested parties about developments by means of the half-year financial report and interim reports for the first and third quarters. The half-year financial report is voluntarily subjected to a review by the auditor appointed by the Annual General Meeting.

Covestro also provides information about the current corporate strategy, important growth areas, the financial position and results of operations, and financial targets at regular press conferences and analysts' meetings. The company uses the internet as a platform for the timely disclosure of information, with the dates of major publications and events, such as the annual report, half-year financial report, quarterly statements and the Annual General Meeting, posted on the Group's website.

In line with the principle of fair disclosure, all stockholders and other main target groups are treated equally as regards the communication of valuation-relevant information. All significant new facts are disclosed immediately to the general public. In addition to our regular reporting, we issue ad-hoc statements on developments that otherwise might not become publicly known but have the potential to materially affect the price of Covestro stock.

Stockholders and Annual General Meeting

Covestro's stockholders exercise their rights within the scope provided for by the law and the Articles of Incorporation at the Annual General Meeting (AGM) and there exercise their right to vote. Each share of Covestro AG confers the same rights and carries one vote at the Annual General Meeting. Stockholders can exercise their voting rights by way of a proxy, e.g., a credit institution, a stockholders' association, or another third party. Stockholders can issue and revoke proxies in respect of the company electronically using the company's online proxy system. The company also makes it easier for its stockholders to exercise their personal rights by appointing voting proxies to cast their votes, subject to their instructions. They are also available during the Annual General Meeting. All of the company's stockholders and interested members of the public may watch the opening of the Annual General Meeting by the meeting chair and follow the report of the Board of Management live online. All documents and information on the Annual General Meeting such as the invitation, including the agenda, and the annual report are available on our website as well.

The live feed of the opening of the Annual General Meeting and the report of the Supervisory Board is available at: www.covestro.com/en/investors/financial-calendar/annual-general-meeting

Takeover-relevant Information

Description pursuant to Section 289a, Paragraph 1 and Section 315a, Paragraph 1 of the German Commercial Code (HGB)

Investments in capital interest held, exceeding 10% of total voting rights

We have received no notification nor are we otherwise aware of direct or indirect investments in capital interest held, equal to or exceeding 10% of the voting rights.

For additional information on Covestro's ownership structure, see: www.covestro.com/en/investors/stock-details/shareholder-structure

Board of Management

Appointment and dismissal of members of the Board of Management, changes to the Articles of Incorporation

The appointment and dismissal of members of the Board of Management are subject to the provisions of Sections 84 and 85 of the German Stock Corporation Act, Section 31 of the German Codetermination Act and Section 6 of the Articles of Incorporation of Covestro AG. Pursuant to Section 84, Paragraph 1 of the German Stock Corporation Act, the members of the Board of Management are appointed and dismissed by the Supervisory Board. The term of service for a Board of Management member appointed for the first time is generally three years. Since Covestro AG falls within the scope of the German Codetermination Act, the appointment or dismissal of members of the Board of Management requires a majority of two-thirds of the votes of the members of the Supervisory Board on the first ballot pursuant to Section 31, Paragraph 2 of that act. If no such majority is achieved, the appointment is resolved pursuant to Section 31, Paragraph 3 of the Codetermination Act on a second ballot by a simple majority of the votes of the members of the Supervisory Board. If the required majority still is not achieved, a third ballot is held. Here again, a simple majority of the votes of the members suffices, but in this ballot, the Supervisory Board Chair has two votes pursuant to Section 31, Paragraph 4 of the Codetermination Act. Under Section 6, Paragraph 1 of the Articles of Incorporation, the number of members of the Board of Management is determined by the Supervisory Board but must be at least two. The Supervisory Board may appoint one member of the Board of Management to be its Chair and one member to be the Vice Chair pursuant to Section 84, Paragraph 2 of the German Stock Corporation Act and Section 6, Paragraph 1 of the Articles of Incorporation.

Any amendments to the Articles of Incorporation are made pursuant to Section 179 of the German Stock Corporation Act and Sections 10 and 17 of the Articles of Incorporation. Under Section 179, Paragraph 1 of the German Stock Corporation Act, amendments to the Articles of Incorporation require a resolution of the Annual General Meeting. Pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act, this resolution must be passed by a majority of three-quarters of the voting capital represented at the meeting, unless the Articles of Incorporation provide for a different majority. However, where an amendment relates to a change in the object of the company, the Articles of Incorporation may only specify a larger majority. Section 17, Paragraph 2 of the Articles of Incorporation utilizes the scope for deviation pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act and provides that resolutions may be passed by a simple majority of the votes cast or, where a capital majority is required, by a simple majority of the capital represented. Pursuant to Section 10, Paragraph 9 of the Articles of Incorporation, the Supervisory Board may resolve on amendments to the Articles of Incorporation that relate solely to their wording.

Capital

Composition of the capital stock

The capital stock of Covestro AG amounted to €183,000,000 as of December 31, 2019, and is composed of 183,000,000 no-par value bearer shares. Each share confers equal rights and one vote at the Annual General Meeting.

Authorized capital

Provisions of the Articles of Incorporation concerning authorized capital are entered in the commercial register of Covestro AG. With the approval of the Supervisory Board and until October 2, 2020, the Board of Management may use the authorized capital to increase the capital stock by up to a total of €101,250,000. New no-par value bearer shares may be issued against cash contributions and/or contributions in kind. If the authorized capital is used to issue shares in return for cash contributions, stockholders must normally be granted subscription rights. However, the Board of Management is authorized – with the approval of the Supervisory Board – to exclude subscription rights for stockholders:

(a) Where the subscription ratio gives rise to fractional amounts.

(b) To the extent necessary to grant holders or creditors of bonds (including jouissance rights) with warrants or conversion rights or obligations issued by the company or its Group companies the right to subscribe to new shares to the extent to which they would be entitled after exercise of their warrants or conversion rights, or performance of their exercise or conversion obligations.

(c) If the capital is increased by granting shares against contributions in kind.

(d) If the new shares are issued at a price that is not significantly below the stock market price and the total interest in the capital stock attributable to the new shares for which subscription rights are excluded pursuant to Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act does not exceed 10% of the existing capital stock either on the date this authorization takes effect or the date it is utilized. The sale of treasury shares shall count toward this limit if they are sold during the term of this authorization and subscription rights are disapplied pursuant to Section 71, Paragraph 1, No. 8, Sentence 5 in conjunction with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act. Further, shares issued or to be issued to service bonds (including jouissance rights) with warrants or conversion rights or obligations shall also count toward this limit where such bonds or jouissance rights were issued during the term of this authorization and stockholders' subscription rights were excluded in analogous application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act.

(e) To issue a scrip dividend in which stockholders are given the option of contributing their dividend entitlements to the company (either in full or in part) as a noncash contribution in return for the granting of new shares in the company out of the authorized capital.

Conditional capital

The company's capital stock shall be conditionally increased by up to €70,000,000, divided into up to 70,000,000 no-par value bearer shares (conditional capital). The conditional capital increase shall only be implemented to the extent that the holders of warrants or conversion rights attached to bonds (including jouissance rights) issued or guaranteed by the company or its Group companies up to August 31, 2020, on the basis of the authorization of the Annual General Meeting of September 1, 2015, exercise their warrants or conversion rights, or perform their warrant or conversion obligations arising from such bonds, and to the extent that such warrants or conversion rights or obligations are not serviced by treasury shares, shares issued out of the authorized capital, or other forms of settlement.

The new shares shall be issued at the warrant or conversion price to be determined in accordance with the authorizing resolution referred to above. The new shares shall participate in the profit from the beginning of the fiscal year in which they come into existence; however, the Board of Management, with the approval of the Supervisory Board, may decide that the new shares shall participate in the profit from the beginning of the fiscal year for which, at the time when the warrants or conversion rights are exercised or the exercise or conversion obligations are performed, the Annual General Meeting has not yet adopted a resolution on the use of the distributable profit. The Board of Management is authorized, with the approval of the Supervisory Board, to set further details of the terms of the conditional capital increase. In the event of a capital increase, the company may regulate dividend entitlement of the new shares differently from what is specified in Section 60 of the German Stock Corporation Act.

Acquisition and use of treasury shares

By a resolution adopted by the Annual General Meeting on April 12, 2019, the Board of Management is authorized to acquire and use treasury shares, also using derivatives. The individual details of the resolution are as follows:

1. Authorization granted to the Board of Management to acquire and use treasury shares

1.1 The Board of Management is authorized until April 11, 2024, to acquire treasury shares with a proportionate interest in the capital stock totaling up to 10% of the company's capital stock existing at the date of the resolution, or if this value is lower, at the time the authorization is exercised, subject to the proviso that the shares acquired as a result of this authorization, together with other shares of the company that the company has already acquired and still holds, or which are attributable to it under Sections 71a et seqq. of the German Stock Corporation Act, at no time exceed 10% of the capital stock of the company. The provisions in Section 71, Paragraph 2, Sentences 2 and 3 of the German Stock Corporation Act must be complied with.

The acquisition may only take place via the stock exchange or by means of a public purchase offer and must satisfy the principle of equal treatment of stockholders (Section 53a of the German Stock Corporation Act). If the acquisition takes place via the stock exchange, the purchase price paid by the company (excluding transaction costs) may neither exceed, nor be lower than, the company's share price, as determined by the opening auction in Xetra trading (or a comparable successor system) on the Frankfurt Stock Exchange on the trading day, by more than 10%. If the acquisition takes place by means of a public purchase offer, the offer price paid by the company (excluding transaction costs) may neither exceed, nor be lower than, the company's share price, as determined by the closing auction in Xetra trading (or a comparable successor system) on the Frankfurt Stock Exchange on the last trading day before the publication of the purchase offer, by more than 10%. If the total number of the shares tendered in response to a public purchase offer exceeds the offer volume, purchases may be made in proportion to the number of shares tendered (tender ratios); in addition, preferential acceptance of small numbers of shares (up to 50 shares per stockholder), as well as rounding in accordance with commercial principles to avoid notional share fractions, may be provided for. Any further stockholder tender rights are disapplied to this extent.

1.2 The authorization may be exercised in full, or in a number of partial amounts split across several acquisition dates, until the maximum purchase volume has been reached. The acquisition may also be carried out by Group companies that are dependent on the company within the meaning of Section 17 of the German Stock Corporation Act, or by third parties on behalf of the company or such Group companies. The authorization may, subject to compliance with the statutory requirements, be exercised for any purpose permissible in law, especially in pursuit of one or more of the purposes listed in No. 1.3, 1.4, 1.5 and 1.6. Trading in treasury shares is not permitted.

If the treasury shares acquired are used for one or more of the purposes described under No. 1.3 or 1.4, the stockholders' subscription rights are disapplied. The Board of Management is authorized to disapply subscription rights if the treasury shares acquired are used for the purpose specified in No. 1.6. Stockholders also do not have any subscription rights if the treasury shares acquired are sold via the stock exchange. In the event that the treasury shares acquired are sold by means of a public offer to stockholders and this public offer complies with the principle of equal treatment, the Board of Management is authorized to disapply the stockholders' subscription rights for fractions.

1.3 The Board of Management is authorized to also sell the treasury shares acquired on the basis of the above or an earlier authorization in a manner other than via the stock exchange or by way of an offer to all stockholders, provided that the sale takes place against cash payment and at a price which, at the date of the sale, is not significantly lower than the market price for the same class of shares in the company. This authorization concerning the use of shares is restricted to shares whose proportionate interest in the capital stock may not in total exceed 10% of the capital stock either at the date when this authorization becomes effective or, if this amount is lower, at the date when the present authorization is exercised. The upper limit of 10% of the capital stock is reduced by the proportionate interest in the capital stock which is attributable to those shares which are issued or sold during the term of this authorization while disapplying subscription rights under or in accordance with Section 186, Paragraph 3, Sentence 4 of the

German Stock Corporation Act. The upper limit of 10% of the capital stock is further reduced by the proportionate interest in the capital stock which is attributable to those shares which are to be issued to service bonds with warrants or conversion rights or obligations, provided that these bonds are issued during the term of this authorization while disapplying subscription rights in application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act, with the necessary modifications.

1.4 The Board of Management is authorized to transfer the treasury shares acquired under the above or an earlier authorization to third parties, provided this is done for the purpose of acquiring companies, parts of companies, equity interests in companies, or other assets, or to effect business combinations.

1.5 The Board of Management is authorized to retire the treasury shares acquired under the above or an earlier authorization without a further resolution by the Annual General Meeting. The shares may also be retired without reducing the capital by adjusting the proportionate interest of the remaining no-par value shares in the capital stock of the company. In this case, the Board of Management is authorized to amend the number of no-par value shares in the Articles of Incorporation.

1.6 The Board of Management is authorized to use the treasury shares acquired as a result of the above-mentioned or earlier authorization to pay a scrip dividend.

1.7 The Board of Management may only use the authorizations in No.1.3, 1.4 and 1.6 with the approval of the Supervisory Board. Moreover, the Supervisory Board may determine that the measures taken by the Board of Management on the basis of this resolution by the Annual General Meeting may only be implemented with its consent.

1.8 Overall, the above authorizations concerning the use of shares may be utilized on one or several occasions, individually or together, in relation to partial volumes of the treasury shares or all treasury shares held in total.

2. Authorization for acquisition using derivatives

2.1 Treasury shares being acquired as part of the authorization under No. 1.1 may also be acquired using put or call options. In this case, the option transactions must be entered into with a credit institution, or a company which operates in accordance with Section 53, Paragraph 1, Sentence 1 or Section 53b, Paragraph 1, Sentence 1 or Paragraph 7 of the German Banking Act, that is independent of the company (financial institution), provided that this financial institution, when the option is exercised, only delivers shares which were previously acquired via the stock exchange at a market-driven price in compliance with the principle of equal treatment.

2.2 The acquisition of shares using put or call options is limited to a maximum of 5% of the capital stock in existence as of the date of the resolution by the Annual General Meeting or, if this value is lower, as of the date when the authorization is exercised.

2.3 The option premium paid by the company in the case of call options may not be materially higher and the option premium received in the case of put options may not be materially lower than the theoretical fair value of the options concerned calculated using accepted financial valuation methods. The exercise price agreed in the option transaction (in each case not including transaction costs, but taking into account the option premium received or paid) may not be more than 10% higher or lower than the price of the company’s shares as determined by the opening auction in Xetra trading (or a comparable successor system) on the Frankfurt Stock Exchange on the trading day on which the option transaction was entered into.

2.4 The term of the individual derivatives may not, in each case, exceed 18 months; it must end at the latest on April 11, 2024, and must be selected so that the shares are not acquired using derivatives after April 11, 2024.

2.5 The provisions under 1. also apply to the use of company shares that have been acquired on the basis of this authorization under 2. using derivatives.

3. Authorization to issue convertible bonds, warrant bonds and/or jouissance rights and to disapply subscription rights to these convertible bonds, warrant bonds and/or jouissance rights

3.1 Authorization period, object, nominal value, term, number of shares

The Board of Management is authorized, with the approval of the Supervisory Board, to issue by August 31, 2020 – in one or more installments – convertible bonds, warrant bonds and/or jouissance rights (collectively referred to as “bonds”) – as either registered or bearer bonds – with a total nominal value of up to €1,500,000,000, with or without limited maturity, and to grant to the creditors of these bonds warrants or conversion rights in respect of up to 70,000,000 no-par value bearer shares of the company with a proportionate interest in the capital stock totaling up to €70,000,000 (hereinafter referred to as “shares of the company”) in accordance with the terms of these bonds (hereinafter referred to as the “terms of the bonds”). The Board of Management can use the authorization in one or more installments. Bonds may also be issued against consideration in kind.

3.2 Currency, issue by Group companies

The bonds may be issued in euros or in the legal currency of any OECD country up to the equivalent value in euros. If bonds are issued in a currency other than the euro, the value shall be calculated using the European Central Bank’s reference price for that currency on the date the resolution concerning the bond issue was taken. The bonds may also be issued by a Group company within the meaning of Section 18 of the German Stock Corporation Act. In such case, the Board of Management is authorized, with the approval of the Supervisory Board, to assume the guarantee for redemption of the bonds and to grant to the creditors of these bonds warrants or conversion rights to shares of the company.

3.3 Conversion rights/obligations, conversion ratio

In the case of bonds with conversion rights, creditors may exchange their bonds for shares of the company in accordance with the terms of the bond. The proportionate interest in the capital stock upon conversion into shares may not exceed the nominal value or a lower issue price for the bond with conversion rights. The conversion ratio is the nominal value of a bond with conversion rights divided by the conversion price for a share in the company. This applies analogously if the price of the bond with conversion rights is lower than the nominal value. The conversion ratio may be rounded up or down to the nearest whole number. Moreover, an additional cash payment may be determined. It may also be determined that fractions are aggregated and/or paid out in cash. The terms of the bond may provide for a fixed or variable conversion ratio. The terms of the bond may also specify a conversion obligation. Moreover, they may entitle the company to grant the creditors of bonds with conversion rights upon or before maturity shares in the company in full or partial place of the cash amount due (company’s substitution right). The terms of the bond may also authorize the company to compensate by cash in full or in part any difference between the nominal value of the bond with conversion rights and the product of the conversion ratio and a price for the share at the time of conversion that is to be specified in the terms of the bond. The share price used in the calculation in accordance with the preceding sentence must be at least 80% of the share price relevant for the lower limit of the conversion price in accordance with the following No. 3.6.

3.4 Warrants/exercise obligations

In the case of bonds with warrants or exercise obligations, one or several warrants are attached to each bond entitling the creditors to subscribe to shares in the company in accordance with the terms of the bond that are to be defined by the Board of Management. The subscription ratio is the nominal value of a bond with warrants divided by the subscription price for a share in the company. The proportionate interest in the capital stock represented by the shares of the company to be issued on exercise of the options may not exceed the nominal value of the bonds. The terms of the bond may also provide for subscription to a variable number of shares on exercise of the warrants. They may also permit settlement of the subscription price by way of a transfer of bonds (trade-in) and, if necessary, an additional cash payment.

3.5 Granting of new or existing shares, cash payment

When exercising warrants or conversion rights or when meeting exercise or conversion obligations, the company may choose to either grant new shares issued from conditional capital or existing shares in the company or shares in another listed corporation. The terms of the bond may entitle the company to pay the cash value instead of granting shares when exercising warrants or conversion rights or when meeting exercise or conversion obligations.

3.6 Conversion/exercise price

The conversion/exercise price must be at least 80% of the volume-weighted average closing price for the company's shares in Xetra trading (or a comparable successor system) on the Frankfurt Stock Exchange on the last ten trading days before the day on which the Board of Management passes the resolution concerning the bond issue or at least 80% of the average closing price for the company's shares in Xetra trading (or a comparable successor system) during the days on which the subscription rights are traded on the Frankfurt Stock Exchange, with the exception of the last two trading days of subscription rights trading. In the case of bonds that are subject to mandatory conversion or if the company exercises its substitution right, the conversion price for one share must be either the aforementioned minimum price or at least the average closing price for the company's shares in Xetra trading (or a comparable successor system) on the ten trading days before the day on which the conversion takes effect. The terms of the bond may provide for changes to the conversion or exercise price over the course of its term, taking account of the minimum prices as described above within a range specified by the Board of Management depending on the development of the share price. The terms of the bond may include dilution clauses for the case that, during the conversion or exercise period, the company increases the capital stock with subscription rights for its stockholders or issues further convertible bonds, warrant bonds, or profit jouissance rights or grants or guarantees other option rights and disapplies the subscription rights to which the holders of warrants or conversion rights would be entitled on exercise of their warrants or conversion rights or on performance of their conversion obligations. The terms of the bond may also allow a value-preserving adjustment of the conversion or exercise price or of the option ratio or payment of a cash component in the event of other measures taken by the company or events which entail an economic dilution of the value of the warrants or conversion rights (e.g. dividends). Under no circumstances may the proportionate interest in the capital stock per share attached to a bond exceed the nominal value of the bond itself.

This shall not affect Section 9, Paragraph 1 or Section 199 of the German Stock Corporation Act.

3.7 Other terms of the bond

The Board of Management is authorized, with the approval of the Supervisory Board, to set further details for the issue and class of the bonds.

3.8 Subscription rights, disapplying subscription rights

When bonds are issued, stockholders must be granted subscription rights as a matter of principle. The bonds may be taken up by one or more banks with the obligation to offer them for subscription to stockholders. However, when issuing bonds, the Board of Management is authorized – with the approval of the Supervisory Board – to disapply stockholders' subscription rights:

3.8.1 For fractions.

3.8.2 Insofar as it is necessary to grant the holders of warrants or conversion rights to shares in the company or the creditors of bonds with conversion obligations attached a subscription right to the extent to which they would be entitled if they were to exercise their rights or perform the conversion obligation.

3.8.3 Insofar as the bonds are issued against cash and the issue price does not substantially fall below the theoretical market value of the bonds as determined in accordance with recognized financial principles. However, this authorization to disapply subscription rights relates only to bonds with rights to shares with a total proportionate interest in the capital stock of no more than 10%, and neither at the time when this authorization becomes effective nor at the time it is exercised. The sale of treasury shares shall count toward this limit if they are sold during the term of this authorization and subscription rights are disapplied pursuant to Section 71, Paragraph 1, No. 8, Sentence 5 in conjunction with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act. Those shares issued during the term of this authorization from authorized capital and on which subscription rights are disapplied pursuant to Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act shall also count toward this limit.

3.8.4 Insofar as they are issued against considerations in kind and the value of these considerations in kind is in reasonable proportion to the market value of the bonds determined according to the preceding No. 3.8.3.

Material conditional agreements

Some debt financing instruments contain clauses that refer to cases of change of control. Such clauses grant the respective investor additional rights of termination, which will possibly be restricted by additional conditions – such as a rating being downgraded. Our syndicated credit line and our bonds, for example, are governed by change-of-control agreements.

Agreements exist for the members of the Board of Management in compliance with Section 4.2.3 of the German Corporate Governance Code in the version of February 7, 2017, to cover the eventuality of a takeover offer being made for Covestro AG. Under these agreements, payments promised in the event of early termination of the service contract of a Board of Management member due to a change of control are limited to the value of three years' compensation and may not compensate more than the remaining term of the contract.

Compliance

Our corporate conduct is characterized by a sense of responsibility as well as ethical principles. Compliance with legal and regulatory requirements is integral to our operations. It is only in this manner that we can sustainably increase the company's enterprise value and safeguard our reputation.

Compliance culture and targets

In its Corporate Compliance Policy, Covestro has specified a Group-wide code of conduct that mandates fundamental principles and rules for all employees. This code of conduct details our commitment to fair competition, integrity in business dealings, the principles of sustainability and product stewardship, data protection, upholding of foreign trade and insider dealing laws, the separation of business and private interests, proper record-keeping and transparent financial reporting, as well as to providing fair, respectful and non-discriminatory working conditions. These requirements apply within the company as well as to all interactions with external partners and the general public. Our code of conduct furthermore provides a decision-making framework for our company and our employees. The Corporate Compliance Policy is available on our intranet and on our website, and is part of an information packet distributed to new employees when they are hired.

Covestro is aware that employees will likely embrace and exhibit integrity if managers are excellent role models. As the Covestro Board of Management states very clearly in its Corporate Compliance Policy for all staff, Covestro does not conduct any business activities that would be legal yet violate our rules. In addition, supervisors are prohibited from instructing employees to violate any Covestro rule. In this way, management continuously fosters our compliance culture by, for example, regularly drawing employees' attention to compliance topics and their significance to the company. At Covestro town hall meetings, for example, Board of Management members present recent compliance cases to employees as well as underscore the importance of complying with statutory requirements and in-house regulations.

We want to utilize our compliance management system in order to:

- Foster and reinforce conduct per compliance requirements;
- Minimize or even eliminate compliance violations;
- Identify risks for potential violations;
- Implement preventive measures;
- Uncover, remedy and proactively eliminate a repeat occurrence of any compliance violations committed by individuals acting without authorization and in breach of clear rules; and
- Achieve continuous improvement of our compliance management system.

Organization

At Covestro, the Chief Compliance Officer oversees compliance activities and reports in this capacity directly to the Board of Management. A central Compliance department coordinates compliance activities throughout the Covestro Group. Chaired by the CFO of Covestro, the Compliance Committee is the Group's top-level decision-making body on these issues. The Committee's responsibilities include the following: exercising a Group-wide compliance governance function, initiating and approving compliance-related regulations, and approving the annual training plan. In the reporting period, the Compliance Committee met a total of four times.

A local Compliance Officer has also been appointed for each country in which Covestro has employees. This person serves as a local point of contact for employees on all questions regarding legally and ethically correct conduct in business situations. The country organizations also have local compliance committees.

Communication

Covestro systematically conducts training courses on compliance. Once areas of emphasis have been specified, specialists define target groups for each category of course content and determine which employees require which type of training.

Covestro expressly encourages its employees to openly address any doubts about proper conduct in business situations and to solicit advice. We inform all employees whom they can contact if they have any doubts or questions. Covestro has also set up a whistleblowing portal. Employees and external persons can report potential compliance violations through a hotline accessible worldwide or use an email address that also permits anonymous reports. In addition, employees can also report any compliance incidents to their supervisors, to the local Compliance Officer or to the Global Compliance Office.

An internal policy sets out the principles for handling compliance incidents at Covestro. This policy also stipulates that all suspected compliance incidents be recorded in a central database. Confirmed violations are evaluated. Organizational, disciplinary or legal measures are taken if necessary.

Compliance incidents are regularly reported to the Supervisory Board, the Board of Management and the segments' management teams. In addition, a current overview of incidents, along with news and additional information on various aspects and developments related to this topic, is published in a monthly Compliance Telegram on the intranet and therefore can be viewed by all employees.

On a quarterly basis, all companies document risks arising from pending or current legal proceedings. Relevant cases are reported to the Audit Committee of the Supervisory Board. The major risks are disclosed in the Notes to the Consolidated Financial Statements.

Compensation Report

The Compensation Report outlines the essential features of the compensation system for the members of the Board of Management and the Supervisory Board of Covestro AG and explains the compensation of the individual members. The report conforms to the requirements of the applicable accounting and reporting regulations for listed companies, the German Commercial Code (HGB), the principles of German Accounting Standard No. 17 (DRS 17), and International Financial Reporting Standards (IFRSs). It also complies with the recommendations of the German Corporate Governance Code (GCGC) in the version of February 7, 2017, applicable on the reporting date.

Compensation of the Board of Management

Objectives

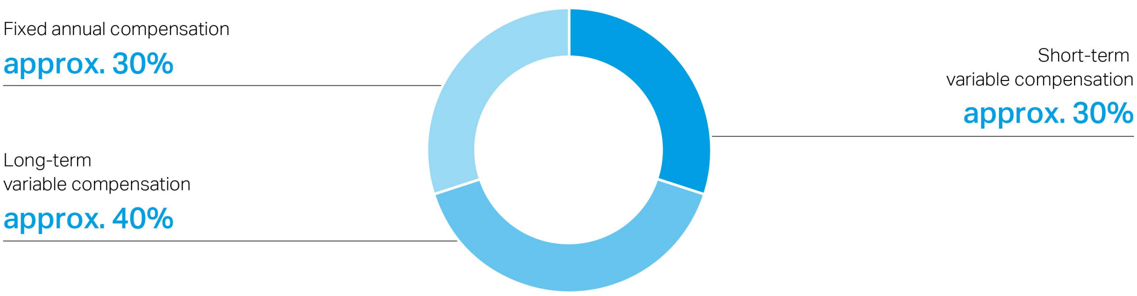
The compensation system for Covestro AG's Board of Management remains largely unchanged from the version approved by the Annual General Meeting on May 3, 2016. It is aligned with the corporate strategy and is designed to facilitate a long-term increase in the company's value and responsible corporate governance. We aim to position Covestro as an attractive employer in the competition for highly qualified executives, and, at the same time, ensure statutory and regulatory compliance. Board of Management compensation is in line with the basic principles of the compensation structure and, as a principle, is structured uniformly for the Board of Management as well as for other executives, including managerial employees, in the Covestro Group.

The appropriateness of the system and the compensation level of the Board of Management are regularly reviewed by the Supervisory Board, which then makes any necessary adjustments. The Supervisory Board used the services of an independent, third-party compensation consultant to determine appropriateness. As a rule, adjustments are in line with the increase in the consumer price index in Germany. If the need for a larger adjustment is ascertained, this is discussed in detail by the Human Resources Committee in view of the appropriate background information, and a resolution is proposed to the Supervisory Board as a whole. Covestro's peer group comprises the companies listed on the DAX and MDAX (not including banks and insurance companies due to limited comparability). Covestro is compared to these companies to determine, in particular, whether Covestro's relative position within this group in terms of revenue, employees and market capitalization is in line with the relative positioning of Board of Management compensation. The Supervisory Board then votes on the proposed adjustment.

Compensation structure

The compensation comprises a non-performance-related component, an annual incentive and a long-term stock-based component. The Covestro Group's compensation structure, based on average total annual compensation for a Board of Management member at 100% target attainment, is as follows:

Board of Management compensation structure (German Commercial Code)[1]



[1] Excluding fringe benefits and pension entitlements

The non-performance-related compensation comprises the fixed annual compensation, which reflects the responsibilities and performance of the Board of Management members, along with fringe benefits. The performance-related compensation comprises a short-term variable component, which depends on the attainment of the corporate performance targets and on the long-term variable compensation, the stock-based compensation program Prisma. This is linked directly to changes in Covestro's share price.

The members of the Board of Management also receive pension entitlements for themselves and their surviving dependents. Furthermore, Covestro AG has purchased a liability insurance for the members of the Board of Management to cover their legally required personal liability arising from their service on the Board of Management. This includes a deductible that is in line with the GCGC recommendation.

Non-performance-related components

Fixed annual compensation

The level of the non-performance-related, fixed annual compensation for members of the Board of Management takes into account the functions and responsibilities assigned to them as well as market conditions. It is paid out in 12 monthly installments.

Fringe benefits

Fringe benefits mainly comprise company cars (limited to the term of existing vehicle leases) or a vehicle allowance, use of the company carpool, payments toward the cost of security equipment, and reimbursement of the cost of annual health screening examinations. Due to her family's place of residence in England and her Indian citizenship, Sucheta Govil also receives assistance from an external advisor in preparing her tax returns. Fringe benefits are reported at cost or the amount of the pecuniary advantage gained.

Performance-related components

Short-term variable compensation

The target value of the short-term variable compensation is 100% of the fixed annual compensation. This amount is adjusted in line with the company's performance.

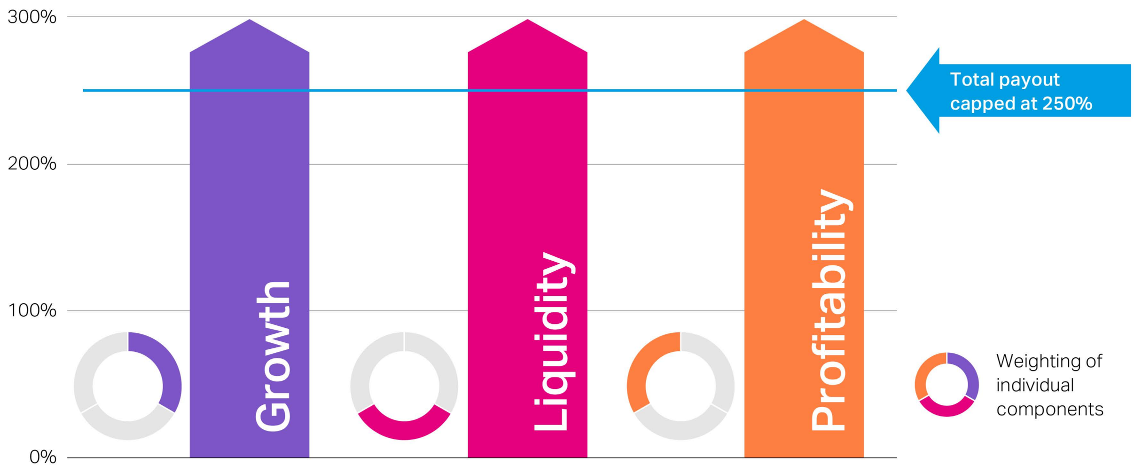
In fiscal 2016, the Group-wide Covestro Profit Sharing Plan (Covestro PSP) was introduced, which also applies to the members of the Board of Management. It consists of a short-term variable compensation based solely on the company's business performance. The system is based on the same performance indicators used to manage the company. The payout is based on performance in the areas of growth (core volume growth), liquidity (free operating cash flow, FOCF), and profitability (return on capital employed, ROCE), with each counting for one-third. In 2018, the Supervisory Board defined the global values for the threshold, 100% achievement and the maximum amount for each performance indicator, which are applied for the three-year period from 2019 to 2021. Between these values, linear interpolation is used to determine the payout.

Components of the Covestro Profit Sharing Plan 2019–2021

	Growth: Core volume growth	Liquidity: FOCF	Profitability: ROCE
Threshold (0%)	+1.5%	Cash inflow of €400 million	ROCE = WACC
100% target attainment	+4.0%	Cash inflow of €800 million	8% points above WACC
Ceiling (300%)	+9.0%	Cash inflow of €1,600 million	24% points above WACC

For each individual performance indicator, the payout can be between zero (failure to meet minimum requirements) and three times the target value; however, the maximum payout for all three components combined is limited to 250% of the target value. The maximum payout is therefore 2.5 times the fixed annual compensation.

Components of short-term variable compensation



If a Board of Management member's term begins or ends in the middle of a fiscal year, their PSP entitlement is prorated based on calendar days. The PSP entitlement for the fiscal year in which a Board of Management member leaves the company is forfeited in the event the member steps down (unless this occurs for good cause for which the member is not responsible) and in cases where the Board of Management member is terminated by the company for good cause.

The Supervisory Board is entitled to reduce the PSP payout to below the calculated amount or resolve to eliminate it entirely to the extent that target attainment falls far short of expectations (e.g., when the Covestro Group's ROCE comes in below the WACC), or if an incident occurs at one of Covestro's plants resulting in death or a large-scale discharge of chemicals that affects the surrounding areas.

Long-term compensation

Prisma

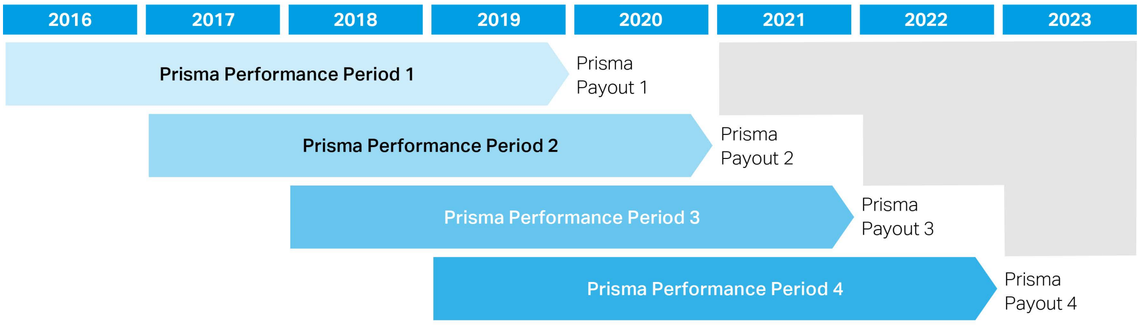
The members of the Board of Management are eligible to participate in the Prisma compensation program as long as they are employed by the Covestro Group and fulfill the share ownership guidelines applicable to them. This program is based on a target opportunity set at 130% of the fixed annual compensation. When a member of the Board of Management retires, current tranches may be shortened, thus reducing their value.

The payout is determined by calculating two factors: The total shareholder return (TSR) factor is the return generated by a stock expressed as a percentage (total of the final price of the share and all dividends distributed per share during the performance period divided by the initial price). The outperformance factor is based on the performance of Covestro stock during the performance period relative to the performance of the STOXX Europe 600 Chemicals index. It is determined by expressing the difference between the performance of Covestro stock and that of the index as a percentage. The factor is greater than 100% (less than 100%) if Covestro's stock outperforms (underperforms) the index.

The Prisma target opportunity of each participant is multiplied by the TSR factor and the outperformance factor to arrive at the total distribution figure. The total distribution is limited to no more than 200% of the target opportunity. The maximum payout is therefore 260% of the fixed annual compensation. If Covestro's shares were to significantly underperform the index (e.g. if the price of the stock went down while the index increased in value), the outperformance factor could amount to zero. As a result, there would be no payout.

If a Board of Management member's term begins or ends in the middle of the first year of a performance period, their Prisma claim is prorated based on calendar days in that year. Tranches awarded for previous years remain in effect if members leave the company. Prisma claims for the tranches still in effect when a Board of Management member leaves the company are forfeited in the event the member steps down (unless this occurs for good cause for which the member is not responsible) and in cases where the Board of Management member is terminated by the company for good cause.

Prisma Performance Periods



Share ownership guidelines

The members of the Board of Management are contractually obligated to acquire Covestro shares equivalent to half of the Prisma target value (65% of the fixed compensation) on their own account within three years of their initial appointment and to hold these shares for the duration of their service on the Board of Management. This obligation is expected to be increased to 100% of the fixed compensation in future contract extensions. Sucheta Govil is already subject to this increased commitment.

Pension entitlements (retirement and surviving dependents' pensions)

The members of the Board of Management are entitled to receive a lifelong company pension after leaving the Covestro Group, though generally not before the age of 62. This pension is paid out in the form of a monthly life annuity.

The arrangements for surviving dependents basically provide for a widow's pension amounting to 60% of the member's pension entitlement, and an orphan's pension amounting to 12% of the member's pension entitlement for each child.

The annual pension entitlement is based on contributions. From September 1, 2015, onward, Covestro has provided a hypothetical contribution each year amounting to as much as 33% of the respective fixed compensation beyond the annual income threshold in the statutory pension plan. This percentage comprises a 6% basic contribution and a matching contribution of up to 27% – three times the member's maximum personal contribution of 9%. The total annual contribution is converted into a pension module according to the annuity table for the applicable tariff of the Rheinische Pensionskasse VVaG pension fund. The annual pension entitlement upon retirement is the total amount of the accumulated pension modules including an investment bonus, which is determined annually by the representatives' meeting of the Rheinische Pensionskasse VVaG and approved by the German Financial Supervisory Authority.

In the case of fixed compensation up to the annual income threshold, the Board of Management members, like all entitled employees, remain subject to the rules governing the basic company pension and are regular participants in the relevant pension plan.

Dr. Klaus Schäfer has been granted, in addition, a vested entitlement to a fixed annual pension of €126,750.

The actual pension entitlement cannot be precisely determined in advance. It depends on the development of the member's compensation, the number of years of service on the Board of Management and the return on the assets contributed to the Rheinische Pensionskasse VVaG.

Certain assets are administered under a contractual trust agreement (CTA), providing additional insolvency protection for pension entitlements resulting from direct commitments for the members of the Board of Management in Germany.

As a rule, future pension payments are adjusted by at least 1% per year. Depending on the pension obligation, an additional adjustment may be made if the investment bonus of the Rheinische Pensionskasse VVaG or the consumer price index exceeds 1% per year.

Cap on compensation

The individual performance-related components are capped at the grant date. To comply with the recommendation of the GCGC, a cap has also been agreed for the compensation as a whole. In 2018, the Supervisory Board resolved to include company pension expenditures above and beyond the components already taken into account (fixed annual compensation and variable components) in calculating total target compensation, i.e. the total of the individual components in the case of 100% target attainment of the variable components.

The cap was set at 1.9 times the respective target compensation. This value was chosen to ensure that compensation will not have to be reduced even if both short-term and long-term compensation reach the maximum possible cap. In the event of such a scenario, it can therefore be expected that the total compensation accrued will not exceed the permitted cap, even when fringe benefits are added, the amount of which cannot be precisely determined in advance. A sample calculation is presented below using the compensation of the Chair of the Board of Management serving as of December 31, 2019.

Sample calculation of limited target compensation for the Chair of the Board of Management

€ thousand	Target value	Achievable value upon maximum payout of both variable compensation systems
Fixed annual compensation	1,192	1,192
Short-term variable compensation[1]	1,192	2,980
Long-term variable compensation[2]	1,550	3,099
Pension service cost[3]	489	489
Target compensation	**4,423**	**7,760**
Fringe benefits[4]		100
Total		**7,860**
Limited to 1.9 times the target compensation		**8,404**

[1] Target value: 100% of fixed annual compensation
[2] Target value: 130% of fixed annual compensation
[3] Pension service cost (HGB)
[4] Hypothetical assumptions/example

Benefits upon termination of service on the Board of Management

Post-contractual noncompete agreements

Post-contractual noncompete agreements exist with the members of the Board of Management, providing for compensatory payments to be made by the company for the duration of these agreements (maximum of two years). The compensatory payment amounts to 100% of the average fixed compensation in the 12 months preceding termination of service.

Change of control

Agreements exist with the members of the Board of Management providing for severance payments to be made in certain circumstances in the event of a change in control. The amount of the severance payments, including any ancillary benefits, in the case of early termination of service on the Board of Management as a result of a change in control is limited to the value of three years' compensation in line with the recommendation in Section 4.2.3 GCGC. Such payments do not exceed the compensation payable for the remaining term of the service contract.

Early termination of service on the Board of Management

The amount of the payments, including any ancillary benefits, made upon early termination of service on the Board of Management is limited to the value of two years' compensation in line with the recommendation in Section 4.2.3 GCGC.

Unfitness for work

In the event of temporary unfitness for work, members of the Board of Management continue to receive the contractually agreed compensation. Covestro AG may terminate the service contract early if the member has been continuously unfit for work for at least 18 months and is likely to be permanently incapable of fully performing his or her duties (permanent incapacity to work). A disability pension is paid in the event of contract termination before the age of 60 due to permanent incapacity to work. The amount of this disability pension corresponds to the entitlement accrued on the date of contract termination, plus, where applicable, a fictitious period of service from that date to the member's 55th birthday where applicable.

Compensation of the Board of Management for the fiscal year

The following section reports the compensation of the Board of Management of Covestro AG for fiscal 2019. The members of the Board of Management of Covestro AG are the same as the members of the Board of Management of Covestro Deutschland AG, which became a subsidiary of Covestro AG on September 1, 2015. Compensation is not paid for the members' work on the Board of Management of Covestro Deutschland AG.

In the 2019 reporting period, the aggregate compensation for the members of the Board of Management of Covestro AG amounted to €6,274 thousand (previous year: €14,337 thousand). This amount comprised €3,001 thousand (previous year: €4,468 thousand) in non-performance-related components and €3,273 thousand (previous year: €9,869 thousand) in performance-related components.

The following table shows the total compensation of the individual members of the Board of Management who served in 2019 and/or 2018 according to the HGB.

Total Board of Management compensation (HGB)

	Non-performance-related compensation				Performance-related compensation					
	Fixed compensation		Fringe benefits		Short-term variable compensation		Long-term variable compensation[1]		Aggregate compensation	
€ thousand	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Dr. Markus Steilemann (Chair)	916	1,192	196	33	2,346	236	736	1,171	4,194	2,632
Sucheta Govil[2]	–	250	–	20	–	50	–	247	–	567
Dr. Klaus Schäfer	562	600	35	36	1,127	119	736	590	2,460	1,345
Dr. Thomas Toepfer[3]	536	729	1,717	141	1,076	144	938	716	4,267	1,730
Patrick Thomas[4]	487	–	19	–	1,760	–	1,150	–	3,416	–
Total	**2,501**	**2,771**	**1,967**	**230**	**6,309**	**549**	**3,560**	**2,724**	**14,337**	**6,274**

[1] Fair value when granted
[2] Member of the Board of Management since August 2019
[3] Member of the Board of Management since April 2018
[4] Member of the Board of Management until May 2018

Fixed annual compensation

The fixed compensation of Board of Management members was increased as of January 1, 2019, based on the change in the previous year's consumer price index (1.90% from November 2017 to October 2018). The need for an additional adjustment for Dr. Klaus Schäfer was identified by the Supervisory Board, because his fixed compensation was significantly lower relative to that of the other Board of Management members in the relevant peer market group.

The fixed compensation of all members of the Board of Management in the 2019 reporting period totaled €2,771 thousand (previous year: €2,501 thousand).

Short-term variable compensation

In 2019, the short-term variable compensation for all Board of Management members totaled €549 thousand after deduction of the solidarity contribution (previous year: €6,309 thousand). This was based on a payout of 20.2% of the respective target value whose calculation is presented in the table below. The solidarity contribution is made by all employees of the companies covered by the respective agreements with the employee representatives to help safeguard jobs at the German sites. For the 2019 reporting period, the contribution amounted to 2.1% of each employee's Covestro PSP award. By resolution of the Supervisory Board, this contribution is also withheld from the Board of Management.

Payout of the Covestro Profit Sharing Plan for 2019

	Growth: Core volume growth	Liquidity: FOCF	Profitability: ROCE
Achieved value	+2.0%	Cash inflow of €473 million	1.6% points above WACC
Resulting payout	+22.0%	+18.3%	+20.3%
Total payout (averaged)		**+20.2%**	

Long-term compensation (Prisma)

The total compensation according to the HGB includes long-term stock-based compensation (Prisma) with a fair value when granted of €2,724 thousand (previous year: €3,560 thousand).

In accordance with IFRSs, grants of stock-based compensation with a four-year performance period are therefore expensed at their respective fair values over four years starting with the grant year. The associated expense is a part of compensation according to IFRSs. In addition, according to IFRSs, the change in the value of existing entitlements under ongoing tranches granted in prior years must be reported as stock-based compensation.

As of December 31, 2019, provisions of €10,570 thousand (December 31, 2018: €7,203 thousand) had been accrued for long-term compensation payable to members of the Board of Management; former members of the Board of Management accounted for €6,027 thousand (December 31, 2018: €4,273 thousand) of this figure.

Long-term compensation (IFRS)

	Board of Management members serving as of Dec. 31, 2019								Former Board of Management members					
	Dr. Markus Steilemann (Chair)		Sucheta Govil (Innovation, Marketing and Sales)		Dr. Klaus Schäfer (Production and Technology)		Dr. Thomas Toepfer (Finance and Labor Director)		Frank H. Lutz		Patrick Thomas		Total	
€ thousand	2018[1]	2019	2018	2019	2018[1]	2019	2018	2019	2018[1]	2019	2018[1]	2019	2018	2019
Total expenses in the reporting period for long-term compensation[2]	216	772	–	22	216	668	92	151	209	148	418	1,066	1,151	2,827

[1] The previous entitlements from the one-time stock-based Aspire compensation programs of the Bayer Group were frozen on the basis of the 2015 closing price and will therefore not change

[2] Long-term variable compensation from newly earned entitlements includes the Prisma program from the years 2016, 2017, 2018 and 2019 amounting to €2,602 thousand (2018: €2,820 thousand), because this compensation is earned over a period of four fiscal years. It is stated at its pro-rata fair value during the 2018 and 2019 vesting period.

Pension obligations

The pension service cost recognized for the members of the Board of Management in the reporting year was €956 thousand (previous year: €966 thousand) according to the HGB, while the current service cost for pension entitlements recognized according to IFRSs was €1,351 thousand (previous year: €1,434 thousand).

Pension obligations are shown in the following table.

Pension entitlements (HGB and IFRSs)

	German Commercial Code				IFRS			
	Pension service cost[1]		Settlement value of pension obligation as of Dec. 31		Service cost for pension entitlements earned in the respective year		Present value of defined pension obligation as of Dec. 31	
€ thousand	2018	2019	2018	2019[2]	2018	2019	2018	2019
Dr. Markus Steilemann	329	489	1,473	2,329	538	705	2,424	3,661
Sucheta Govil[3]	–	59	–	65	–	78	–	92
Dr. Klaus Schäfer	194	222	2,884	3,823	279	291	4,200	5,393
Dr. Thomas Toepfer[4]	121	186	132	409	202	277	201	672
Patrick Thomas[5]	322	–	4,849	–	415	–	6,188	–
Total	**966**	**956**	**9,338**	**6,626**	**1,434**	**1,351**	**13,013**	**9,818**

[1] Including company contribution to Bayer Pensionskasse VVaG or Rheinische Pensionskasse VVaG
[2] Includes direct and indirect pension obligations
[3] Member of the Board of Management since August 2019
[4] Member of the Board of Management since April 2018
[5] Member of the Board of Management until May 2018

The pension service cost differs on account of the different principles applied in measuring the settlement value of pension obligations in accordance with the HGB and the present value of defined benefit pension obligations in accordance with IFRSs.

Disclosures pursuant to the recommendations of the German Corporate Governance Code

The following tables show the compensation and fringe benefits paid for the reporting period (2019) or the prior-year period, including the minimum and maximum achievable variable compensation, and the allocation of compensation for the reporting period or the prior-year period in line with the recommendations of the GCGC in the February 7, 2017, version.

Compensation and benefits granted for the reporting period

	Dr. Markus Steilemann (Chair)				Sucheta Govil (Innovation, Marketing and Sales)				Dr. Klaus Schäfer (Production and Technology)				Dr. Thomas Toepfer (Finance and Labor Director)			
	Joined August 20, 2015				Joined August 1, 2019				Joined August 20, 2015				Joined April 1, 2018			
€ thousand	Target value 2018	Target value 2019	Min. 2019	Max.[2] 2019	Target value 2018	Target value 2019	Min. 2019	Max.[2] 2019	Target value 2018	Target value 2019	Min. 2019	Max.[2] 2019	Target value 2018	Target value 2019	Min. 2019	Max.[2] 2019
Fixed annual compensation	916	1,192	1,192	1,192	–	250	250	250	562	600	600	600	536	729	729	729
Fringe benefits	196	33	33	33	–	20	20	20	35	36	36	36	1,717	141	141	141
Total	**1,112**	**1,225**	**1,225**	**1,225**	**–**	**270**	**270**	**270**	**597**	**636**	**636**	**636**	**2,253**	**870**	**870**	**870**
Short-term variable compensation	1,170	1,192	–	2,980	–	252	–	630	562	600	–	1,500	536	729	–	1,823
Long-term stock-based compensation (2018–2021 Prisma tranche)	736[1]	–	–	–	–	–	–	–	736[1]	–	–	–	938[1]	–	–	–
Long-term stock-based compensation (2019–2022 Prisma tranche)	–	1,171[1]	–	3,099	–	247[1]	–	654	–	590[1]	–	1,560	–	716[1]	–	1,895
Total	**3,018**	**3,588**	**1,225**	**7,304**	**–**	**769**	**270**	**1,554**	**1,895**	**1,826**	**636**	**3,696**	**3,727**	**2,315**	**870**	**4,588**
Benefit expense	538	705	705	705	–	78	78	78	279	291	291	291	202	277	277	277
Total compensation	**3,556**	**4,293**	**1,930**	**8,009**	**–**	**847**	**348**	**1,632**	**2,174**	**2,117**	**927**	**3,987**	**3,929**	**2,592**	**1,147**	**4,865**

1 Fair value when granted
2 Applicable caps have not yet been taken into account in the total maximum amounts. The payout in a single year is limited to 1.9 times the target compensation.

Compensation and benefits granted for the reporting period

	Patrick Thomas			
	Stepped down May 31, 2018			
€ thousand	Target value 2018	Target value 2019	Min. 2019	Max.[2] 2019
Fixed annual compensation	487	–	–	–
Fringe benefits	19	–	–	–
Total	**506**	**–**	**–**	**–**
Short-term variable compensation	877	–	–	–
Long-term stock-based compensation (2018–2021 Prisma tranche)	1,150[1]	–	–	–
Long-term stock-based compensation (2019–2022 Prisma tranche)	–	–	–	–
Total	**2,533**	**–**	**–**	**–**
Benefit expense	415	–	–	–
Total compensation	**2,948**	**–**	**–**	**–**

1 Fair value when granted
2 Applicable caps have not yet been taken into account in the total maximum amounts. The payout in a single year is limited to 1.9 times the target compensation.

Allocation of compensation for the reporting period

	Dr. Markus Steilemann (Chair)		Sucheta Govil (Innovation, Marketing and Sales)		Dr. Klaus Schäfer (Production and Technology)		Dr. Thomas Toepfer (Finance and Labor Director)		Patrick Thomas	
	Joined August 20, 2015		Joined August 1, 2019		Joined August 20, 2015		Joined April 1, 2018		Stepped down May 31, 2018	
€ thousand	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Fixed annual compensation	916	1,192	–	250	562	600	536	729	487	–
Fringe benefits	196	33	–	20	35	36	1,717	141	19	–
Total	**1,112**	**1,225**	**–**	**270**	**597**	**636**	**2,253**	**870**	**506**	**–**
Short-term variable compensation	2,346	236	–	50	1,127	119	1,076	144	1,760	–
2014–2017 Aspire tranche[1]	98[2]	–	–	–	130	–	–	–	609	–
2015–2018 Aspire tranche	–	–	–	–	–	–	–	–	–	–
Total	**3,556**	**1,461**	**–**	**320**	**1,854**	**755**	**3,329**	**1,014**	**2,875**[3]	**–**
Benefit expense	538	705	–	78	279	291	202	277	415	–
Total compensation	**4,094**	**2,166**	**–**	**398**	**2,133**	**1,046**	**3,531**	**1,291**	**3,290**	**–**

1 The depicted inflow from the respective 2014–2017 tranche of the one-time stock-based Aspire compensation program of the Bayer Group took place in the payout year. The payout itself was made for a performance period that mostly occurred prior to the start of the Board of Management term.
2 Payment was made partially outside Germany in local currency on the basis of a theoretical net salary in Germany.
3 In addition, Patrick Thomas received a payout of long-term stock-based compensation in fiscal 2018 in the form of virtual Bayer shares in the amount of €959 thousand in his capacity as subgroup CEO in the Bayer Group for fiscal 2014.

In 2018, the former Management Board member Frank H. Lutz received a payment of €186 thousand for the 2014–2017 tranche of the long-term compensation program Aspire.

Compensation of former members of the Board of Management

In 2019, former members of the Board of Management did not receive any compensation (previous year: €674 thousand). The aggregate compensation for 2018 included a one-time lump sum payment of €390 thousand for Patrick Thomas and a pro-rata compensation of €284 thousand for the post-contractual noncompete clause for Frank H. Lutz that was limited to one year. A provision of €7,818 thousand (previous year: €668 thousand) is recognized in the consolidated financial statements as of December 31, 2019, for current pensions for former Board of Management members. A provision of €5,804 thousand is recognized for this purpose in the financial statements of Covestro AG as of December 31, 2019 (December 31, 2018: €465 thousand).

Compensation of the Supervisory Board

The Supervisory Board is compensated according to the relevant provisions of the Articles of Incorporation.

The members of the Supervisory Board each receive fixed annual compensation of €100 thousand plus reimbursement of their expenses.

In accordance with the recommendations of the GCGC, additional compensation is paid to the Supervisory Board Chair and Vice Chair, and for chairing and membership in committees. The Supervisory Board Chair receives fixed compensation of €300 thousand, while €150 thousand is paid to the Vice Chair. This compensation includes chairmanship of and membership in committees. The other members of the Supervisory Board are entitled to additional compensation for membership in or chairmanship of committees. The Chair of the Audit Committee receives an additional €50 thousand, the other members of the Audit Committee €25 thousand each. The chairs of the remaining committees receive €30 thousand each, the other members of those committees €20 thousand each. No additional compensation is paid for membership in the Nominations Committee. Work on committees will be considered for no more than two committees. If this cap is exceeded, compensation is paid for the two highest paid positions. If changes are made to the Supervisory Board and/or its committees during the year, members receive compensation on a prorated basis. The members of the Supervisory Board also receive an attendance fee of €1 thousand each time they personally attend a meeting of the Supervisory Board or a committee. The attendance fee is limited to €1 thousand per day.

Compensation of the Supervisory Board for the fiscal year

The following table outlines the components of each Covestro AG Supervisory Board member's compensation for the 2019 reporting period and the prior-year period:

Compensation of the members of the Supervisory Board of Covestro AG

	Fixed compensation		Attendance fee		Total	
€ thousand	2018	2019	2018	2019	2018	2019
Ferdinando Falco Beccalli	100	100	4	6	104	106
Dr. Christine Bortenlänger	100	100	5	6	105	106
Johannes Dietsch	145	145	10	9	155	154
Peter Hausmann	145	145	8	8	153	153
Petra Kronen (Vice Chair)	150	150	10	10	160	160
Irena Küstner	125	125	9	9	134	134
Dr. Ulrich Liman	120	120	7	8	127	128
Prof. Dr. Rolf Nonnenmacher (Chair of the Audit Committee)	150	150	9	9	159	159
Dr. Richard Pott (Chair)	300	300	10	9	310	309
Regine Stachelhaus	120	120	5	6	125	126
Marc Stothfang	100	100	5	6	105	106
Frank Werth	100	100	5	6	105	106
Total	**1,655**	**1,655**	**87**	**92**	**1,742**	**1,747**

In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Covestro Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation was €883 thousand (previous year: €925 thousand).

No compensation was paid or benefits granted to members of the Supervisory Board for personally performed services such as consulting or agency services. In addition, the company has purchased insurance for the members of the Supervisory Board to cover their personal liability arising from their service on the Supervisory Board. This includes a deductible that is in line with the GCGC recommendation.

Other information

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of either December 31, 2018, or December 31, 2019.

DISCLOSURES ON SUSTAINABILITY REPORTING

Covestro aims to help protect the environment, conserve limited resources, advance society and create value, all by firmly integrating sustainability into the corporate strategy and management.

Our sustainability reporting is based on recognized standards. We report on material topics and nonfinancial performance indicators pursuant to Section 315 (3) of the German Commercial Code (HGB) in our Group Management Report and supplement this information with additional content, which is additionally required in accordance with the standards of the Global Reporting Initiative (GRI) "core" option. Furthermore, as a member of the UN Global Compact, we submitted a corresponding progress report in April 2019.

Nonfinancial Group statement

We publish the nonfinancial Group statement pursuant to Sections 315b and 315c in conjunction with Sections 289c through 289e HGB as an integrated part of the Group Management Report. The respective sections include the strategies we pursue in addressing environmental, labor and social issues as well as protecting human rights and fighting corruption and bribery, including the due diligence processes followed and measures implemented, as well as the outcomes of these strategies.

We applied the GRI standards as a framework for preparing the nonfinancial Group statement.

Key topics relevant to the nonfinancial Group statement are identified in an internal process and in consideration of their significance and implementation within the company. The starting point for this is the materiality analysis and the material topics identified or updated as a result, i.e., the topics of high or very high relevance for Covestro. The following table provides an overview of the key sustainability topics with an eye to the relevant aspects and contains references to the specific sections in the Group Management Report. In order to identify and address current developments and sustainability-related opportunities and risks at an early stage, we also review whether there are any new findings relevant to opportunity and risk management.

Key sustainability topics of the Group's nonfinancial statement (German Commercial Code)

Key topics of the Group's nonfinancial statement (German Commercial Code)	Relevant aspects in accordance with the Group's nonfinancial statement (German Commercial Code)	Section reference in the Group Management Report
Innovative solutions that contribute to the UN Sustainable Development Goals	Environmental matters, social matters	"Innovation," "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality"
Environmentally efficient operations	Environmental matters	"Environmental Protection," "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality"
Occupational health and safety	Employee matters	"Safety," "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality"
Employer attractiveness	Employee matters	"Employees"
Product stewardship	Social matters	"Product Stewardship"
Circular economy	Environmental matters	"Circular Economy"
Inclusive business	Social matters	"Social Responsibility"
Sustainability in the supply chain	Environmental matters, social matters, fighting corruption and bribery, respect for human rights	"Sustainability in Supplier Management," "Compliance"
Business ethics, human rights due diligence and transparency	Fighting corruption and bribery, respect for human rights	"Employees," "Social Responsibility," "Sustainability in Supplier Management," "Opportunities and Risks Report," "Compliance"

As an integral part of the Group Management Report, the nonfinancial Group statement was audited by the financial statement auditor, KPMG AG Wirtschaftsprüfungsgesellschaft, as part of the audit of the consolidated financial statements based on an expansion of the audit engagement.

A nonfinancial statement or nonfinancial report does not have to be provided at this time for Covestro AG.

CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED FINANCIAL STATEMENTS OF COVESTRO AG AS OF DECEMBER 31, 2019

COVESTRO GROUP CONSOLIDATED INCOME STATEMENT

	Note	2018[1]	2019
		€ million	€ million
Sales	**6**	**14,616**	**12,412**
Cost of goods sold		(9,918)	(9,658)
Gross profit		**4,698**	**2,754**
Selling expenses		(1,408)	(1,380)
Research and development expenses		(276)	(266)
General administration expenses		(491)	(372)
Other operating income	7	123	181
Other operating expenses	8	(66)	(65)
EBIT[2]		**2,580**	**852**
Equity-method loss		(22)	(22)
Result from other affiliated companies		1	2
Interest income		35	40
Interest expense		(82)	(85)
Other financial result		(36)	(26)
Financial result	**10**	**(104)**	**(91)**
Income before income taxes		**2,476**	**761**
Income taxes	11	(647)	(204)
Income after income taxes		**1,829**	**557**
of which attributable to noncontrolling interest		6	5
of which attributable to Covestro AG stockholders (net income)		1,823	552
		€	€
Basic earnings per share[3]	**12**	**9.46**	**3.02**
Diluted earnings per share[3]	**12**	**9.46**	**3.02**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] EBIT: income after income taxes plus financial result and income taxes
[3] Weighted average number of outstanding no-par voting shares of Covestro AG in issue: 182,728,724 (previous year: 192,768,826)

COVESTRO GROUP CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	Note	2018[1]	2019
		€ million	€ million
Income after income taxes		**1,829**	**557**
Remeasurements to the net defined benefit liability for post-employment benefit plans	20	(198)	(439)
Income taxes	11	45	103
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans		**(153)**	**(336)**
Changes in fair values of equity instruments	24	1	–
Income taxes	11	–	–
Other comprehensive income from equity instruments		**1**	**–**
Other comprehensive income that will not be reclassified subsequently to profit or loss		**(152)**	**(336)**
Exchange differences of foreign operations		72	93
Reclassified to profit or loss		–	–
Other comprehensive income from exchange differences		**72**	**93**
Other comprehensive income that may be reclassified subsequently to profit or loss		**72**	**93**
Total other comprehensive income[2]		**(80)**	**(243)**
of which attributable to noncontrolling interest		2	1
of which attributable to Covestro AG stockholders		(82)	(244)
Total comprehensive income		**1,749**	**314**
of which attributable to noncontrolling interest		8	6
of which attributable to Covestro AG stockholders		1,741	308

[1] Reference information has not been restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”
[2] Total change recognized outside profit or loss

COVESTRO GROUP CONSOLIDATED STATEMENT OF FINANCIAL POSITION

	Note	Dec. 31, 2018[1]	Dec. 31, 2019
		€ million	€ million
Noncurrent assets			
Goodwill	13	256	264
Other intangible assets	13	77	114
Property, plant and equipment[2]	14	4,409	5,286
Investments accounted for using the equity method	15	214	192
Other financial assets	16	31	32
Other receivables	18	32	52
Deferred taxes	11	782	851
		5,801	6,791
Current assets			
Inventories	17	2,213	1,916
Trade accounts receivable		1,786	1,561
Other financial assets	16	17	27
Other receivables	18	346	359
Claims for income tax refunds		55	104
Cash and cash equivalents		865	748
Assets held for sale		1	12
		5,283	4,727
Total assets		**11,084**	**11,518**
Equity	**19**		
Capital stock of Covestro AG		183	183
Capital reserves of Covestro AG		3,480	3,487
Other reserves		1,679	1,537
Equity attributable to Covestro AG stockholders		**5,342**	**5,207**
Equity attributable to noncontrolling interest		33	47
		5,375	5,254
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	20	1,445	1,965
Other provisions	21	237	230
Financial liabilities[2]	22	1,166	1,601
Income tax liabilities	11	107	95
Other liabilities	23	18	32
Deferred taxes	11	153	206
		3,126	4,129
Current liabilities			
Other provisions	21	493	203
Financial liabilities[2]	22	59	151
Trade accounts payable		1,637	1,507
Income tax liabilities	11	172	69
Other liabilities	23	222	191
Liabilities directly related to assets held for sale		–	14
		2,583	2,135
Total equity and liabilities		**11,084**	**11,518**

[1] Reference information has not been restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”
[2] The figures as of December 31, 2019, include right-of-use assets and lease liabilities from initial application of IFRS 16.

COVESTRO GROUP CONSOLIDATED STATEMENT OF CASH FLOWS

	Note	2018[1]	2019
		€ million	€ million
Income after income taxes		1,829	557
Income taxes		647	204
Financial result		104	91
Income taxes paid		(574)	(296)
Depreciation, amortization, impairment losses and impairment loss reversals		620	752
Change in pension provisions		26	49
(Gains)/losses on retirements of noncurrent assets		(45)	(51)
Decrease/(increase) in inventories		(308)	322
Decrease/(increase) in trade accounts receivable		110	238
(Decrease)/increase in trade accounts payable		31	(149)
Change in other working capital, other noncash items		(64)	(334)
Cash flows from operating activities	**27.1**	**2,376**	**1,383**
Cash outflows for additions to property, plant, equipment and intangible assets		(707)	(910)
Cash inflows from sales of property, plant, equipment and other assets		23	6
Cash inflows from divestitures		66	51
Cash outflows for noncurrent financial assets		(20)	(15)
Cash inflows from noncurrent financial assets		1	2
Cash outflows for acquisitions less acquired cash		–	(11)
Interest and dividends received		32	40
Cash inflows from/(outflows for) other current financial assets		259	(1)
Cash flows from investing activities	**27.2**	**(346)**	**(838)**
Reacquisition of treasury shares		(1,313)	–
Reissuance of treasury shares		8	7
Dividend payments and withholding tax on dividends		(441)	(442)
Issuances of debt		64	444
Retirements of debt[2]		(646)	(591)
Interest paid[2]		(74)	(86)
Cash flows from financing activities	**27.3**	**(2,402)**	**(668)**
Change in cash and cash equivalents due to business activities		**(372)**	**(123)**
Cash and cash equivalents at beginning of year		**1,232**	**865**
Change in cash and cash equivalents due to changes in scope of consolidation		–	(1)
Change in cash and cash equivalents due to exchange rate movements		5	7
Cash and cash equivalents at end of year		**865**	**748**

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] The figures as of December 31, 2019, include the effects from initial application of IFRS 16, see note 27.3 "Cash flows from financing activities."

COVESTRO GROUP CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Capital stock of Covestro AG	Capital reserves of Covestro AG	Retained earnings incl. total income	Accumulated other comprehensive income	Equity attributable to Covestro AG stockholders	Equity attributable to noncontrolling interest	Equity
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Dec. 31, 2017[1]	**201**	**4,767**	**113**	**254**	**5,335**	**30**	**5,365**
Changes in accounting for initial application of new IFRS			8	(1)	7		7
Jan. 1, 2018 adjusted	**201**	**4,767**	**121**	**253**	**5,342**	**30**	**5,372**
Reacquisition and redemption of treasury shares	(18)	(1,295)			(1,313)		(1,313)
Issuance of treasury shares		8			8		8
Dividend payments			(436)		(436)	(5)	(441)
Income after income taxes			1,823		1,823	6	1,829
Other comprehensive income			(152)	70	(82)	2	(80)
Total comprehensive income			1,671	70	1,741	8	1,749
Dec. 31, 2018[2]	**183**	**3,480**	**1,356**	**323**	**5,342**	**33**	**5,375**
of which treasury shares		(15)			(15)		(15)
Dec. 31, 2018[2]	**183**	**3,480**	**1,356**	**323**	**5,342**	**33**	**5,375**
Issuance of treasury shares		7			7		7
Dividend payments			(438)		(438)	(3)	(441)
Other changes[3]			(12)		(12)	11	(1)
Income after income taxes			552		552	5	557
Other comprehensive income			(336)	92	(244)	1	(243)
Total comprehensive income			216	92	308	6	314
Dec. 31, 2019	**183**	**3,487**	**1,122**	**415**	**5,207**	**47**	**5,254**
of which treasury shares		(7)			(7)		(7)

[1] Reference information was not restated for financial reporting standards IFRS 9 and IFRS 15.
[2] Reference information was not restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”
[3] Other changes result from a step acquisition of shares in April 2019 and the related equity transaction, see note 5.2 “Acquisitions and divestitures.”

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS OF THE COVESTRO GROUP

Principles and Methods

1. General Information

Covestro AG (registered at the district trade register, or Amtsgericht, for Cologne, number: HRB 85281) is a stock exchange-listed corporation headquartered at Kaiser-Wilhelm-Allee 60, 51373 Leverkusen, (Covestro AG). The consolidated financial statements of Covestro AG for the period ended December 31, 2019, cover Covestro AG and its subsidiaries, joint arrangements and associated companies. They have been prepared according to the International Financial Reporting Standards (IFRSs) of the International Accounting Standards Board (IASB), London (United Kingdom), as endorsed by the European Union (EU) and in effect at the reporting date, the Interpretations (IFRICs) of the IFRS Interpretations Committee (IFRS IC) and the Interpretations published by the Standing Interpretations Committee (SIC), as well as the additional requirements of German commercial law pursuant to Section 315e (1) of the German Commercial Code (HGB) for the exempting IFRS consolidated financial statements. Reference information for the previous period has not been restated for new accounting standards, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."

The declaration pertaining to the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG) has been issued and made available to stockholders. It is reproduced in section "Declaration on Corporate Governance" of the combined management report.

If certain items in the income statement, statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity of the Covestro Group are condensed for the sake of clarity, this is explained in the notes. The income statement has been prepared using the cost-of-sales method. Assets and liabilities are classified by maturity. They are classified as current if they mature within one year or within the Group's normal business cycle or are held for sale. Inventories, trade accounts receivable and payable and assets held for sale are consistently presented as current. Deferred tax assets, deferred tax liabilities and pension provisions are consistently presented as noncurrent.

The consolidated financial statements are drawn up in euros. Amounts are stated in millions of euros (€ million) except where otherwise indicated.

Exchange rates

In the reporting period, the following exchange rates were used for the major currencies of relevance from the perspective of the Covestro Group:

Closing rates for major currencies

		Closing Rates	
€1/		2018	2019
BRL	Brazil	4.44	4.52
CNY	China	7.87	7.82
HKD	Hong Kong	8.97	8.75
INR	India	79.73	80.19
JPY	Japan	125.85	121.94
MXN	Mexico	22.49	21.22
USD	United States	1.15	1.12

Average rates for major currencies

		Average Rates	
€1/		2018	2019
BRL	Brazil	4.29	4.41
CNY	China	7.81	7.74
HKD	Hong Kong	9.25	8.77
INR	India	80.64	78.82
JPY	Japan	130.40	122.01
MXN	Mexico	22.70	21.55
USD	United States	1.18	1.12

2. Effects of New Financial Reporting Standards

2.1 Financial reporting standards applied for the first time in the reporting period

IFRS Pronouncement (published on)	Title	Effective for annual periods beginning on or after
IFRS 16 (January 13, 2016)	Leases	January 1, 2019
IFRIC Interpretation 23 (June, 7, 2017)	Uncertainty over Income Tax Treatments	January 1, 2019
Amendments to IFRS 9 (October 12, 2017)	Prepayment Features with Negative Compensation	January 1, 2019
Amendments to IAS 28 (October 12, 2017)	Long-term Interests in Associates and Joint Ventures	January 1, 2019
Annual Improvements to IFRSs (December 12, 2017)	2015 – 2017 Cycle	January 1, 2019
Amendments to IAS 19 (February 7, 2018)	Plan Amendment, Curtailment or Settlement	January 1, 2019

With the exception of IFRS 16 (Leases), initial application of the standards listed in the table had little or no material impact on the presentation of the net assets, financial position, and results of operations. The impact of the initial application of IFRS 16 is outlined below.

Initial application of IFRS 16

On January 13, 2016, the IASB published IFRS 16 (Leases), a new standard for recognizing leases, which has been applied since January 1, 2019, in accordance with the transitional provisions and replaces the previous accounting provisions for leases.

While IFRS 16 basically retains the previous accounting rules for lessors, there is now only one accounting model for use by lessees. This requires a lessee to recognize a right-of-use asset and a corresponding lease liability for each lease. The right-of-use asset reflects a lessee's right to use the asset being leased. The lease liability represents the lessee's obligation to make contractual lease payments. Exemptions are available for leases with a term of 12 months or less or those with a low-value underlying asset.

IFRS 16 was applied using the modified retrospective approach for all leases in which Covestro is the lessee. For this reason, the reference figures for previous years were not adjusted. These continue to be presented in accordance with the previous accounting rules under IAS 17 (Leases) (for further details, see note 3 "Accounting Policies and Valuation Principles"). The initial application of IFRS 16 had no effect on equity as of January 1, 2019.

The transitional provisions under IFRS 16 stipulate that on the date of initial application no new assessment has to be made as to whether an existing agreement meets the definition of a lease according to IFRS 16. Rather, those arrangements previously assessed to be leases by applying IAS 17 and IFRIC 4 (Determining Whether an Arrangement Contains a Lease), up to and including December 31, 2018, can be continued. Covestro made use of this practical expedient when applying IFRS 16 for the first time.

With regard to lessees, right-of-use assets were generally recognized in the amount of the corresponding lease liabilities upon initial application of IFRS 16 at Covestro. In specific cases, the right-of-use asset was adjusted by the amount of accrued advance payments or liabilities recognized in the financial statements as of the end of fiscal 2018. Initial direct costs were not taken into account in the measurement of the right-of-use asset on the date of initial application. The corresponding lease liability was routinely measured using the incremental borrowing rate at the date of initial application. In addition, Covestro took advantage of the optional exemptions regarding the recognition of leases with a term of 12 months or less (short-term leases) and leases on low-value assets. As under the previously applicable standard IAS 17, payments for these leases continue to be recognized in profit or loss over the term using the straight-line method. Leases with a remaining term of less than 12 months at the date of application were recognized in the same way as short-term leases. Options to extend or terminate were reconsidered at initial application of IFRS 16 in the assessment of the term of the contract.

Upon initial application of IFRS 16, Covestro recognized lease liabilities for leases formerly classified as operating leases under IAS 17. These liabilities are measured as of January 1, 2019, at the present value of the remaining contractual lease payments discounted using the lessee's individual incremental borrowing rate. The weighted average of the incremental borrowing rate amounted to 3.2%.

The difference between the total of the future minimum lease payments from operating leases disclosed in the Notes to the Consolidated Financial Statements as of December 31, 2018, in accordance with IAS 17 and the lease liabilities as of January 1, 2019, recognized in accordance with IFRS 16, is in particular a result of the liabilities from former finance leases already recognized as of December 31, 2018, the effect of discounting future lease payments from operating leases, leases assessed for the first time under initial application of IFRS 16, changes in the assumptions on the contract term, and the exemptions exercised in relation to the accounting approach for short-term leases and leases for low-value assets.

The following reconciliations of the carrying amounts of right-of-use assets and lease liabilities as of January 1, 2019, to the carrying amounts as of December 31, 2019, are broken down by former finance leases recognized on the balance sheet in accordance with IAS 17 in conjunction with IFRIC 4 and former operating leases recognized for the first time through initial application of IFRS 16.

Right-of-use assets

	Former finance leases	Former operating leases	Totals
	€ million	€ million	€ million
Right-of-use assets, January 1, 2019	**218**	**660**	**878**
Additions	–	91	91
Retirements	–	(73)	(73)
Transfers (IFRS 5)	–	(1)	(1)
Depreciation and impairment losses	(33)	(124)	(157)
Other changes	2	17	19
Right-of-use assets, December 31, 2019	**187**	**570**	**757**

Lease liabilities

	Former finance leases	Former operating leases	Totals
	€ million	€ million	€ million
Lease liabilities, January 1, 2019	**193**	**656**	**849**
Additions	–	91	91
Retirements	–	(76)	(76)
Transfers (IFRS 5)	–	(4)	(4)
Repayment	(34)	(109)	(143)
thereof lease rate	(46)	(130)	(176)
thereof interest portion	12	21	33
Other changes	1	17	18
Lease liabilities, December 31, 2019	**160**	**575**	**735**

As of January 1, 2019, property, plant and equipment and financial liabilities increased by €660 million and €656 million, respectively, due to the initial application of IFRS 16. The underlying leases relate mainly to leases for production and logistics infrastructure as well as real estate. The principal additions in fiscal 2019 comprise new leases for transport vessels, rail cars and electric buses. The retirements recorded in the reporting year are mainly the result of early termination of lease agreements for rail cars.

2.2 Published financial reporting standards that have not yet been applied

The IASB and the IFRS IC have issued the following standards, amendments to standards, and interpretations whose application has not yet been mandatory to date. The application of these IFRS standards is conditional upon their endorsement by the European Union.

IFRS pronouncement (published on)	Title	Effective for annual periods beginning on or after
Endorsed by the EU		
Amendments to IFRS Standards (March 29, 2018)	Amendments to References to the Conceptual Framework in IFRS Standards	January 1, 2020
Amendments to IAS 1 and IAS 8 (October 31, 2018)	Definition of Material	January 1, 2020
Amendments to IFRS 9, IAS 39 and IFRS 7 (September 26, 2019)	Interest Rate Benchmark Reform	January 1, 2020
Not yet endorsed by the EU		
Amendments to IFRS 3 (October 22, 2018)	Definition of a Business	January 1, 2020
IFRS 17 (May 18, 2017)	Insurance Contracts	January 1, 2021
Amendments to IAS 1 (January 23, 2020)	Classification of Liabilities as Current or Non-current	January 1, 2022

The date of initial application of the standards not yet endorsed by the EU is deemed to be the effective date stipulated by the IASB. Because the amendments to IFRS 3 (Business Combinations) outlined in the table above have not yet been endorsed by the EU, Covestro did not yet apply these changes as of January 1, 2020.

The effects of initial application of IFRS 17 (Insurance Contracts) and the amendments to IAS 1 (Presentation of Financial Statements) are currently being reviewed. Initial application of the other standards listed in the table is expected to have little or no material impact on the presentation of the net assets, financial position and results of operations. IFRS 17 and the amendments to IAS 1 are explained below.

On May 18, 2017, the IASB issued IFRS 17. IFRS 17 regulates the recognition, measurement and presentation of issued insurance contracts as well as the necessary disclosures in the notes. In addition, IFRS 17 requires the application of similar principles in the case of reinsurance contracts and, insofar as insurance contracts are issued, also investment contracts with a discretionary participation feature. IFRS 17 will replace IFRS 4 (Insurance Contracts).

On January 23, 2020, the IASB published amendments to IAS 1 under the title “Classification of Liabilities as Current or Non-current.” The amendments define more precisely when a liability is to be classified as current or non-current in the statement of financial position if the settlement date is still uncertain.

3. Accounting Policies and Valuation Principles

Covestro's consolidated financial statements are based on the principle of the historical cost of acquisition, construction or production. Exceptions are items measured at fair value, such as certain financial assets and derivatives.

In preparing the consolidated financial statements, Covestro management has to make assumptions and estimates to a certain extent that may substantially impact the presentation of the Covestro Group's net assets, financial position, and results of operations and could deviate from the actual results. Such estimates, assumptions, and the exercise of discretion mainly relate to the following areas: defining the useful life of noncurrent assets, calculating the discounted cash flows used for impairment testing to be conducted at least annually, purchase price allocations, accounting for income taxes, the assessment of the amount of deferred tax assets recoverable in future periods as well as the recognition of provisions, (e.g. for litigation-related expenses, pensions and other employee benefits, other taxes, environmental compliance and remediation costs, and product liability). In addition, Covestro's management must decide which information is relevant for readers of the IFRS consolidated financial statements and should be included in the notes. Information about exercising discretion in the application of accounting policies that most significantly affect the amounts reported in the consolidated financial statements, and about estimates and assumptions, are disclosed in the following notes.

Consolidation

As of December 31, 2019, the direct and indirect subsidiaries of Covestro AG were fully consolidated in accordance with the principles of IFRS 10 (Consolidated Financial Statements). In addition, joint arrangements as defined by IFRS 11 (Joint Arrangements) were classified as joint operations and consolidated proportionately in the consolidated financial statements, or classified as joint ventures and accounted for in the same way as associated companies using the equity method in accordance with IAS 28 (Investments in Associates and Joint Ventures). For additional information, please see note 5.1 "Scope of consolidation and investments."

Joint operations and joint ventures

Joint operations and joint ventures are based on joint arrangements. A joint arrangement is deemed to exist if Covestro AG, through a contractual agreement, indirectly or directly jointly controls an activity together with one or more third parties. Joint control is only deemed to exist if decisions regarding the relevant activities require the unanimous consent of the parties sharing control.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets attributable to the arrangement and obligations with regard to the liabilities attributable to the arrangement. The Covestro Group recognizes the share of assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with its rights and obligations.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint ventures are accounted for using the equity method.

Associates over which Covestro AG has significant influence, directly or indirectly, generally through an ownership interest between 20% and 50%, are also accounted for using the equity method.

Currency translation

The financial statements of the individual companies for inclusion in the consolidated financial statements are prepared in their respective functional currencies. The majority of consolidated companies carry out their activities autonomously from a financial, economic and organizational point of view, and their functional currencies are therefore the respective local currencies.

In the separate financial statements of the foreign companies, receivables and liabilities in currencies other than the respective functional currency are translated at closing rates. Related exchange differences are recognized in profit or loss and recorded as exchange gains or losses under other financial result.

In the consolidated financial statements, the assets and liabilities of Covestro companies outside the eurozone are translated into euros at closing rates at the start and end of the reporting period, while income and expense items and cash flows are translated into euros at average rates. Equity items are translated at historical rates.

Sales and other operating income

All revenues derived from the selling of products or rendering of services or from licensing agreements are recognized as sales. Other operational revenues are recognized as other operating income.

In principle, the amount of consideration from a contract with a customer to which Covestro expects to be entitled in exchange for the transfer of goods or services is recognized as sales when the customer obtains control of the corresponding goods or services.

Sales are generated primarily from the sale of chemical products. In most cases, control over these products is transferred to the customer at a point in time.

Depending on the contractual agreements made and transportation clauses agreed upon with the customer in the majority of cases control is transferred to the customer upon delivery at the place of destination, furthermore at the point in time of collection by the customer or upon handover to the freight carrier. In some cases, sales are made through consignment warehouses in which customers primarily obtain control over the delivered goods upon delivery to the consignment warehouse.

In principle, control is considered to be transferred when the customer can direct the use of the product to be delivered and obtain substantially all of the remaining benefits from the product, while this is no longer possible for Covestro.

Determining the point in time of the transfer of control involves considering additional indicators. In particular, it is considered at which point in time Covestro has a present right to payment for the product and when physical possession of the product or, in a broader sense, the possibility of sole access to the product, is transferred to the customer. Depending on the transportation clauses, the possibility of sole access to the product may be transferred even prior to arrival or physical handover of the product to the customer. Furthermore, the point in time when the legal title passes to the customer is also considered to the extent that it constitutes more than a protective right. The point in time when the significant rewards and risks of ownership of a product are transferred to the customer is usually linked closely with the aforementioned indicators and is therefore considered with these. Based on experience, it is assumed that products sold fulfill the agreed-upon specifications, thus acceptance by the customer is an indicator that does not generally affect the point in time at which control is transferred.

As a result, depending on the contractual agreements made and transportation clauses agreed upon with the customer, the point in time of the transfer of control is determined.

In the case of products sold through a consignment warehouse, the customer generally obtains physical possession of this product upon delivery to the consignment warehouse. In addition, the right to payment for the delivered goods generally arises upon delivery. To the extent that the other three indicators do not lead to a contrary conclusion, control of the products in the case of a sale through a consignment warehouse transfers to the customer upon delivery to the consignment warehouse. The corresponding sales are therefore realized at the time of delivery.

Certain products are only sold to one customer. Some of these customer-specific products have no alternative use for Covestro. Insofar as Covestro has an enforceable right to payment for performance completed to date, sales are recognized on the basis of progress towards complete satisfaction of the performance obligation. As a rule, control over an individual customer-specific product is considered to be transferred when the generally short production process is completed successfully and the product has been tested to confirm that the agreed-upon specifications have been met.

To the extent that, for certain types of performance obligations that are satisfied over time, there is a right to consideration in an amount that corresponds directly with the value of the performance provided by Covestro to date, revenue will normally be realized in the amount to which Covestro has a right to invoice.

Invoices are usually payable in 0 to 90 days. Contracts may contain early payment discounts or rebates. Rebates are generally retroactively granted sales- or volume-dependent rebates based on the sales or volume of a period customarily spanning up to 12 months. Some contracts include pricing formulas used to determine the billable price at the time of delivery. Moreover, the final prices for certain contracts with customers are not yet fixed at the time of transfer of control. Instead, provisional prices are billed initially.

Sales are recognized in the amount of the transaction price that Covestro is expected to receive. Sales do not include amounts collected on behalf of third parties (e.g. sales tax). Where consideration includes a variable component, for example due to the contract clauses described, this component of the consideration is estimated either based on the expected value method or the most likely amount. The method producing the best estimate is used in this case. However, variable consideration is only taken into account to the extent it is not constrained as defined by IFRS 15. Variable consideration is not constrained if it is highly probable that a significant reversal in the amount of sales will not occur when the corresponding uncertainty is subsequently resolved. The transaction price of a contract is allocated to the performance obligations therein using the relative stand-alone selling prices, which generally correspond to the agreed upon prices. If the conditions are met, variable amounts are completely allocated to individual performance obligations.

Refund liabilities result particularly from rebates granted and total the amount of the rebate expected to be refunded, which is calculated based on the methods described.

As a rule, no warranties are issued beyond normal warranties that products will fulfill the agreed-upon specifications.

In the case of contracts with customers, Covestro generally does not expect more than one year to pass between the transfer of a product to a customer and the payment thereof. As a result, the agreed consideration is not adjusted for significant financing components. When incremental costs of obtaining a contract arise, these are immediately recognized as expenses, if the potential amortization period is one year or less.

Research and development expenses

Research and development expenses are incurred in the Covestro Group for in-house research and development activities as well as research and development collaborations and alliances with third parties.

According to IFRSs, research costs cannot be capitalized. Development costs, on the other hand, must be capitalized according to closely defined conditions. An intangible asset must be recognized if there is reasonable certainty of receiving future cash flows that will cover an asset’s carrying amount. Covestro’s development projects are often subject to uncertainties, so the conditions for the capitalization of development costs are normally not satisfied. Each project or contract is reviewed to determine potential capitalization requirements.

Income taxes

Income taxes comprise the taxes levied on taxable income in the individual countries along with changes in deferred tax assets and liabilities that are recognized in profit or loss. The income taxes recognized are reflected at the amounts likely to be payable or reimbursable under the statutory regulations in force, or already enacted in relation to future periods, at the end of the reporting period.

As a rule, deferred taxes are recognized in profit or loss. However, if deferred taxes relate to items recognized outside profit or loss in equity, they, too, are recognized outside profit or loss.

The probability that deferred tax assets resulting from temporary differences, tax credits or loss carryforwards can be utilized in the future is the subject of forecasts by the individual companies regarding the future earnings situation in the respective Covestro companies and other parameters.

Deferred tax liabilities are recognized on planned dividend payments by subsidiaries. Where no dividend payment or disposal of corresponding equity investments is planned for the foreseeable future, no deferred tax liability is recognized on the difference between the proportionate equity according to IFRSs and the tax base of the carrying amount of the investment in the subsidiary.

The expected effects of uncertain deferred and actual income tax positions are estimated in accordance with IFRIC 23 (Uncertainty over Income Tax Treatments) either based on the expected value method or the most likely amount. The method producing the best estimate is used in this case. Tax audits in which the relevant tax authority could take a view differing from Covestro’s legal position are by far the most important sources of estimation uncertainties for uncertain tax positions. Uncertain tax positions are accounted for under the assumption that the tax authorities will investigate all relevant matters and have all relevant information at their disposal.

Goodwill

Goodwill is not amortized. Its carrying amount is subjected to impairment testing annually or more often if there is any indication of possible impairment. Detailed explanations of impairment testing can be found under “Procedure used in global impairment testing and its impact.” Once an impairment loss has been recognized on goodwill, it cannot be reversed in subsequent periods.

Other intangible assets

An “other intangible asset” is an identifiable nonmonetary asset without physical substance, other than goodwill (such as software or rights). Other intangible assets are recognized at the cost of acquisition or generation. Those with a determinable useful life are amortized accordingly on a straight-line basis over a period of up to 20 years, except where their actual depletion demands a different amortization pattern. Determination of the expected useful lives of other intangible assets is based on estimates of the period for which they will generate cash flows.

Property, plant and equipment

Property, plant and equipment are carried at the cost of acquisition or construction and depreciated by the straight-line method over the expected useful life. An impairment loss is recognized in addition if an asset’s recoverable amount falls below its carrying amount.

If the construction phase or manufacturing process of property, plant or equipment extends over a period of 12 months or more, the interest incurred on borrowed capital up to the date of completion is capitalized as part of the cost of acquisition or construction in accordance with IAS 23 (Borrowing Costs).

Costs for regular, comprehensive maintenance work (such as the major overhaul of a technical facility) are capitalized as a separate component if they satisfy special recognition criteria.

The following depreciation periods are generally applied throughout the Covestro Group:

Useful life of property, plant and equipment

Buildings	20 to 50 years
Infrastructure	10 to 20 years
Storage tanks and pipelines	10 to 20 years
Plant installations	6 to 20 years
Machinery and equipment	6 to 12 years
Furniture and fixtures	4 to 10 years
Vehicles	5 to 8 years
Computer equipment	3 to 5 years
Laboratory and research facilities	3 to 5 years

Significant asset components with different useful lives are accounted for and depreciated separately. Right-of-use-assets for leases are recognized in property, plant and equipment.

When assets are sold, closed down or scrapped, the difference between the net proceeds and the net carrying amount of the assets is recognized as a gain or loss in other operating income or expenses, respectively.

Impairment of other intangible assets and property, plant and equipment

If there are indications that an individual item of intangible assets or property, plant and equipment may be impaired, the recoverable amount is compared to the carrying amount to determine whether it is higher or lower. If the recoverable amount is less than the carrying amount, an impairment loss is recognized for the difference. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the original (amortized) cost of acquisition or generation.

Both depreciation or amortization and impairment losses are recognized in the functional cost in line with the use of the relevant asset.

Inventories

Inventories are recognized at their cost of acquisition or production (production-related full cost) – calculated by the weighted-average method – or at their net realizable value, whichever is lower. The net realizable value is the estimated selling price in the ordinary course of business less estimated cost to complete and selling expenses.

Financial instruments

Contracts are recognized as financial instruments in the financial statements which simultaneously give rise to a financial asset at one entity while resulting in a financial liability or equity instrument at another entity. Accordingly, financial assets are recognized in the consolidated financial statements if the Covestro Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial liabilities are initially recognized in the consolidated financial statements if Covestro has a contractual obligation to transfer cash or other financial assets to another entity. With the exception of trade accounts receivable, financial instruments are measured at fair value plus directly attributable transaction costs upon initial recognition. For financial instruments measured at fair value through profit or loss, transaction costs are recognized directly in the income statement. Trade accounts receivable are recognized at their transaction price. Subsequent measurement of financial instruments is based on their classification in the categories stipulated in IFRS 9 (Financial Instruments).

Financial assets

Financial assets comprise loans, acquired equity and debt instruments, cash and cash equivalents, other financial assets, and derivatives with positive fair values. The classification and measurement of financial assets is based on the business model pursued by the Covestro Group with regard to the management of its financial assets for the purpose of collecting cash flows, and on the characteristics of the contractual cash flows from the relevant financial assets (cash flow condition). Subsequent measurement takes place according to the measurement rules for the respective category, as described below.

Financial assets carried at amortized cost comprise nonderivative financial assets that are held as part of a business model that aims to collect contractual cash flows and that additionally fulfill the cash flow condition, i.e., the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. This category comprises trade accounts receivable, the loans included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from financial assets assigned to this category is determined using the effective interest method.

Financial assets carried at fair value through other comprehensive income encompass debt instruments held as part of a business model that aims to obtain cash flows from the instrument both by collecting contractual payments as well as through the sale thereof, and that additionally fulfill the cash flow condition. Acquired bonds may be classified in this category to the extent that they are intended to be sold before they mature. Interest income, foreign currency gains and losses, and impairment losses or impairment loss reversals are recognized in the income statement for financial assets in this category. The remaining fair value changes are recognized in other comprehensive income. Upon derecognition, the cumulative net gains or losses included in other comprehensive income are reclassified to the income statement.

The Covestro Group exercises the option of recognizing changes in the fair value of equity instruments that are not held for trading in other comprehensive income. In contrast to the treatment of debt instruments, the gains and losses recognized in other comprehensive income are not reclassified to the income statement upon derecognition, and no impairment losses are recognized in profit or loss.

Financial assets carried at fair value through profit or loss are all financial assets not assigned to any of the above categories and particularly include derivatives with positive fair values. The Covestro Group does not opt to measure financial assets at fair value for the purpose of avoiding or minimizing accounting mismatches.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all significant risks and rewards.

Cash and cash equivalents

Cash and cash equivalents comprise cash, checks received and balances with banks. Cash equivalents are highly liquid short-term financial investments that are subject to an insignificant risk of changes in value, are easily convertible into a known amount of cash, and have a maturity of three months or less from the date of acquisition or investment.

Derivatives

Derivatives – such as forward exchange contracts – are used to mitigate the risk of fluctuations in exchange rates. Derivatives are recognized at the trade date.

Contracts concluded in order to receive or deliver nonfinancial goods for the company's own purposes are not accounted for as derivatives but treated as pending transactions. Where embedded derivatives are identified that are required to be separated from the pending transactions, they are accounted for separately. To take advantage of market opportunities or cover possible peak demand, a nonmaterial volume of transactions may be entered into for which the possibility of immediate resale cannot be excluded. Such transactions are allocated to separate portfolios upon acquisition and accounted for as derivatives according to IFRS 9.

Derivatives are carried at fair value. This relates to what are known as standalone derivatives as well as derivatives embedded in certain types of contracts and therefore required to be accounted for separately from their host contracts. Positive fair values at the end of the reporting period are reflected in financial assets, negative fair values in financial liabilities. Changes in the fair values of these derivatives are recognized directly in profit or loss in the other operating result. Changes in the fair values of forward exchange contracts and currency options serving as hedging instruments for items in the statement of financial position are divided into an interest and a currency component. The interest component is recognized in interest expense or income and the currency component is recognized as exchange gains or losses in the other financial result. Changes in the fair value of forward exchange contracts used to hedge forecasted transactions in foreign currencies are recognized in other operating result.

Covestro does not apply hedge accounting.

Financial liabilities

Financial liabilities comprise primary financial liabilities and negative fair values of derivatives.

In subsequent periods, such nonderivative liabilities are measured at amortized cost using the effective interest method. The Covestro Group does not opt to measure financial liabilities at fair value to avoid or minimize accounting mismatches.

Financial liabilities are derecognized when the contractual obligation is discharged or canceled, or has expired.

Provisions for pensions and other post-employment benefits

Within the Covestro Group, post-employment benefits are provided under defined contribution and defined benefit plans. In the case of defined contribution plans, the company pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. Once the contributions have been paid, the company has no further payment obligations. The regular contributions constitute expenses for the year in which they are due and as such are included in the functional cost items, and thus in income after income taxes plus financial result and income tax expense (EBIT). All other post-employment benefit systems are defined benefit plans, which may be either unfunded, i.e. financed by provisions, or funded, i.e. financed through pension funds.

The present value of the defined benefit obligations and the resulting expense are calculated in accordance with IAS 19 (Employee Benefits) by the projected unit credit method. The future benefit obligations are valued by actuarial methods and spread over the entire employment period on the basis of specific assumptions regarding beneficiary structure and the economic environment. These relate mainly to the discount rate, future salary and pension increases, variations in health care costs, and mortality rates.

The discount rates used are calculated from the yields of high-quality corporate bond portfolios in specific currencies with cash flows approximately equivalent to the expected cash outflows from the pension plans. The uniform discount rate derived from this interest rate structure is thus based on the yields, at the closing date, of a portfolio of corporate bonds with at least an AA or AAA rating whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation.

The fair value of plan assets is deducted from the present value of the defined benefit obligation for pensions and other post-employment benefits to determine the net defined benefit liability. Plan assets in excess of the benefit obligation are reflected in other receivables, subject to the asset ceiling specified in IAS 19. Comprehensive actuarial valuations for all major plans are performed annually as of December 31.

The balance of all income and expenses relating to defined benefit plans, except the net interest on the net liability, is recognized in EBIT. The net interest is reflected in the financial result.

The effects of remeasurements of the net defined benefit liability are reflected in other comprehensive income. They consist of actuarial gains and losses, the return on plan assets and changes in the effects of the asset ceiling, less the respective amounts included in net interest for the last two components. Deferred taxes relating to the effects of remeasurements are also recognized in other comprehensive income.

Other provisions

Other provisions are measured in accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) or, where applicable, IAS 19 (Employee Benefits). Where the cash outflow to settle an obligation is expected to occur after one year, the provision is recognized at the present value of the expected cash outflow. Claims for reimbursements from third parties are separately reflected in other receivables if their realization is virtually certain.

If the projected obligation declines as a result of a change in the estimate, the provision is reversed by the corresponding amount and the resulting income recognized in the operating expense item(s) in which the original charge was recognized.

To enhance the information content of the estimates, certain provisions that could have a material effect on the net assets, financial position and results of operations are selected and tested for their sensitivity to changes in the underlying parameters using sensitivity analysis. To reflect uncertainty about the likelihood of the assumed events actually occurring, the impact of a five-percentage-point change in the probability of occurrence is examined in each case.

Provisions for environmental protection are recorded if future cash outflows are likely to be necessary to ensure compliance with environmental regulations or to carry out remediation work, such costs can be reliably estimated, and no future benefits are expected from such measures.

Estimating the future costs of environmental protection and remediation involves many uncertainties, particularly with regard to the status of laws, regulations and the information available about conditions in the various countries and at the individual sites. Significant factors in estimating the costs include previous experiences in similar cases, the conclusions in expert opinions obtained regarding existing environmental programs, current costs, and new developments affecting costs. Also taken into consideration are management's interpretation of current environmental laws and regulations, the number and financial position of third parties that may become obligated to participate in any remediation costs on the basis of joint liability, and the remediation methods likely to be deployed. Changes in these assumptions could impact future reported results.

Taking into consideration experience gained to date regarding environmental matters of a similar nature, Covestro's management believes the existing provisions to be adequate based upon currently available information. Given the businesses in which the Covestro Group operates and the difficulties inherent in accurately estimating liabilities for environmental protection, it remains possible that material additional costs will be incurred beyond the amounts accrued. It may transpire during remediation work that additional expenditures are necessary over an extended period and that these exceed existing provisions and cannot be reasonably estimated.

Provisions for restructuring only cover expenses that arise directly from restructuring measures, are necessary for restructuring and are not related to future business operations. Such expenses include severance payments to employees and compensation payments in respect of rented property that can no longer be used.

Restructuring measures may include the sale or termination of business units, site closures, relocations of business activities or fundamental reorganizations of business units. The respective provisions are established when a detailed restructuring plan has been drawn up, resolved upon by the responsible decision-making level of management and communicated to the employees and/or their representatives. Provisions for restructuring are generally established at the present value of future cash outflows.

As a global enterprise, the Covestro Group is exposed to numerous legal risks for which provisions for litigations must be established under certain conditions – including especially in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control.

Litigation and other judicial proceedings often raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, the jurisdiction in which each suit is brought and differences in applicable law. The outcomes of currently pending and future proceedings generally cannot be predicted. Judgment in court proceedings, regulatory decisions or the conclusion of a settlement may result in the Covestro Group incurring charges for which no accounting measures have been taken for lack of reasonable estimate or which exceed established provisions and insurance coverage.

The Covestro Group considers the need for accounting measures in respect of pending or future litigations, and the extent of any such measures, on the basis of the information available to its legal department and in close consultation with legal counsel acting for the Covestro Group.

Where it is more likely than not that such a litigation will result in an outflow of resources that is already reasonably estimable, a provision for litigation is normally recorded in the amount of the present value of the expected cash outflows. Such provisions cover the estimated unavoidable payments to the plaintiffs, court and procedural costs, attorney costs, and the cost of potential settlements.

It is often impossible to reliably determine the existence of a present obligation or reasonably estimate the probability that a potential outflow of resources will result from a pending or future litigation. Due to the special nature of these litigations, provisions generally are not established until initial settlements allow an estimate of potential amounts or judgments have been issued and not before at least a range of possible legal outcomes of such litigations is possible. Provisions for legal defense costs are established if it is probable that material costs will have to be incurred for external legal counsel to defend the company's legal position.

Internal and external legal counsels evaluate the current status of the material legal risks of the Covestro Group at the end of each reporting period. The need to establish or adjust a provision and the amount of the provision or adjustment are determined on this basis. Adjusting events are reflected up to the date of preparation of the consolidated financial statements.

The status of the material legal risks is described in note 26 "Legal Risks."

Personnel-related provisions are mainly those recorded for variable one-time payments, individual performance awards, long-service awards, severance payments in connection with early retirement arrangements, surpluses on long-term accounts and other personnel costs.

Obligations under stock-based compensation programs that provide for awards payable in cash are also included here. The compensation of the Board of Management of Covestro AG and of managerial employees includes stock-based compensation components that are earned with lock-up periods and are reflected in profit or loss as personnel expenses in line with the consideration paid in the performance period. They are measured using a subscription price model at the time of granting and at each reporting date in accordance with IFRS 2 (Share-based Payment).

Miscellaneous provisions include those for other liabilities, product liability and warranties.

Other receivables and liabilities

Grants and subsidies from third parties that serve to promote investment are reflected in the statement of financial position under other liabilities, and amortized to income over the useful lives of the respective investments.

Leasing

A lease exists when the lessor grants the lessee the contractual right to control an identified asset for a specified period of time and in return the lessor receives consideration from the lessee.

When Covestro is the lessee in a lease, as a rule a right-of-use asset and a corresponding liability (lease liability) are recognized in the statement of financial position on the date the underlying asset is made available for use to Covestro.

The right-of-use asset represents a lessee's right to use the asset being leased in return for payment. Upon initial recognition, the right-of-use asset is generally capitalized at the amount of the corresponding lease liability plus any initial direct costs, any dismantling obligations and lease payments made prior to the commencement date less any lease incentives received. For subsequent measurement, the right-of-use asset is depreciated over the lease term. Contract modifications, as long as these are not measured as separate leases, and reassessment of the lease liability are also reflected in the right-of-use asset. The right-of-use asset is included in the line item property, plant and equipment in the statement of financial position. Impairment testing and reporting of any impairment losses are carried out for the right-of-use assets in the statement of financial position in accordance with the regulations applicable to property, plant and equipment.

The lease liability represents the company's obligation to make contractual lease payments and is measured as the present value of precisely these outstanding lease payments. While IFRS 16 requires use of the interest rate implicit in the lease in order to calculate the present value, it is frequently not possible to ascertain this interest rate. Accordingly, the incremental borrowing rate is generally applied in discounting the lease payments. If the outstanding lease payments include fixed payments or variable lease payments that depend on an index or an interest rate, these are taken into consideration in the lease liabilities. Variable lease payments that depend on an index or an interest rate are measured at the underlying index or interest rate as soon as this is to be applied. If, as an exception, there are residual value guarantees, purchase options or penalty fees, these are to be recognized accordingly in the lease liability to the extent that they are anticipated. At Covestro, lease agreements usually include fixed contract terms. Additionally, options to extend and terminate the lease exist particularly for the rental of production and logistics infrastructure and of real estate. In order to assess whether options to extend or terminate the lease are reflected in the lease term, all relevant facts are examined to determine the existence of economic incentives to exercise or not to exercise these options. The lease term is only adjusted to reflect changes in the expectations regarding whether or not such options will be exercised if there is reasonable certainty. The effective interest method is used for the subsequent measurement of lease liabilities. Using this method, periodic lease payments with an effect on cash flows are divided into an interest portion which affects profit or loss and a repayment portion not affecting profit or loss. Lease liabilities are reported in financial liabilities classified as current or noncurrent according to their maturity.

Overall, effects on income from leases to be recognized in accordance with IFRS 16 comprise depreciation of the right-of-use asset and any impairment losses on the right-of-use asset (operating result), discounting and subsequent measurement of the lease liability (financial result) and in cases in which a lease agreement is modified. Such lease modifications can result, for instance, from options to terminate or extend a lease which were previously not explicitly stipulated in the contract. Contractual lease payments for leases accounted for in accordance with IFRS 16 are shown solely under cash flows from financing activities.

IFRS 16 provides exemptions for applying the recognition and measurement rules for leases with a term of less than 12 months, those with a low-value underlying asset or if the underlying asset is an intangible asset. Covestro considers an asset to be of low value if the new value is less than €5,000. Leases are not recognized as a depreciable right-of-use asset on the balance sheet or as a lease liability at Covestro for the exceptions referenced above. Corresponding contractual payments are shown in the cash flows from operating activities and the same amount is recognized as an expense in the operating result.

For leases in which Covestro is the lessor, a differentiation is made between finance lease and operating lease in accordance with IFRS 16. Leases that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are treated as finance leases. At the commencement date, the lessor recognizes a lease receivable in the statement of financial position in the amount of the net investment in the lease and derecognizes the underlying asset from the noncurrent assets. The net investment routinely comprises the present value of future contractual lease payments. Any lease incentives or variable lease payments that depend on an index or an interest rate to be paid by the lessee, as well as any residual value guarantees or other contractual payment claims against the lessee can be included in the net investment. The lessor applies the interest rate implicit in the lease for initial measurement of the net investment or the lease receivable. Using this method, periodic lease payments with an effect on cash flows are divided into an interest portion which affects profit or loss and a repayment portion not affecting profit or loss; the interest portion is shown in the financial result. The effective interest method is applied for the subsequent measurement of the net investment or lease receivable. In an operating lease, the underlying asset continues to be shown under the lessor's noncurrent assets and depreciated over the useful life. Lease payments received are recorded as sales.

Acquisition accounting

Acquired businesses are accounted for using the acquisition method, which requires that the assets acquired and liabilities assumed be recorded at their respective fair values on the date control is obtained. Ancillary acquisition costs are recognized as expenses in the periods in which they occur.

Procedure used in global impairment testing and its impact

Global impairment testing is performed at the level of cash-generating units. A cash-generating unit (CGU) is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Covestro Group regards its strategic business entities as cash-generating units and subjects them to global impairment testing. The cash-generating units usually constitute the first financial reporting level below the reportable segments.

Cash-generating units are globally tested if there is an indication of possible impairment. Those to which goodwill is allocated are tested at least annually.

In the case of impairment, the resulting expense is reflected for goodwill in other operating expenses and for other assets in the functional item of the income statement in which the depreciation or amortization of the respective assets is recognized. The same applies to income from impairment loss reversals, although impairment losses on goodwill may not be reversed.

The recoverable amount is generally determined on the basis of the fair value less costs of disposal, taking into account the present value of the future cash flows as market prices for the individual units are normally not available. The forecasts of future cash flows generally have a planning horizon of three to five years and are based on the Covestro Group's current planning. Forecasting involves making assumptions, based on internal Group estimates and external sources, especially regarding future selling prices, sales volumes, costs, market growth rates, economic cycles and exchange rates. Where the recoverable amount is the fair value less costs of disposal, the cash-generating unit is measured from the viewpoint of an independent market participant. Cash flows beyond the planning period are determined on the basis of long-term business expectations using the respective individual growth rates derived from market information. The measurement of fair value less costs of disposal is based on unobservable inputs (Level 3 of the fair value hierarchy).

The net cash inflows are discounted at the weighted average cost of capital (WACC), which is calculated as the weighted average cost of equity and cost of debt. To take into account the risk and return profile of the Covestro Group, an after-tax cost of capital is calculated and a specific capital structure is defined by benchmarking against comparable companies in the same industry sector ("peer group"). The cost of equity corresponds to the return expected by stockholders, while the cost of debt is based on the terms at which the peer group can obtain long-term financing. In principle, both components are derived from capital market information.

The growth rates for the terminal value applied for impairment testing in fiscal 2019 amounted to 1% (previous year: 1%) for the Polyether Polyols CGU in the Polyurethanes reporting segment and 2% (previous year: 2%) in each case for the following CGUs: Diphenylmethane Diisocyanate (MDI) and Toluene Diisocyanate (TDI) in the Polyurethanes reporting segment; Polycarbonates (PCS) in the Polycarbonates reporting segment; and Base & Modified Isocyanates (BMI), Resins (RES), and Specialty Films (SF) in the Coatings, Adhesives, Specialties reporting segment. These growth assumptions reflect in particular economic cycles over several years as well as expectations for capacity and the market for each cash-generating unit. The after-tax capital cost factor used to discount the expected cash flows was 6.4% (previous year: 6.5%).

As was the case in the previous year, no impairment losses were recognized on goodwill in the reporting period on the basis of the global annual impairment testing of the cash-generating units. In the fiscal year, impairment losses on property, plant and equipment and intangible assets amounted to €28 million (previous year: €7 million) and impairment loss reversals on property, plant and equipment and intangible assets amounted to €1 million (previous year: €0 million). Details are provided in notes 13 "Goodwill and Other Intangible Assets" and 14 "Property, Plant and Equipment."

Although the estimates of the useful lives of certain assets, assumptions concerning the macroeconomic environment and developments in the industries in which the Covestro Group operates, and estimates of the discounted future cash flows are believed to be appropriate, changes in assumptions or circumstances could require changes in the analysis. This could lead to additional impairment losses in the future or – except in the case of goodwill – to reversals of previously recognized impairment losses if developments are contrary to expectations.

The sensitivity analysis for cash-generating units to which goodwill is allocated was based on a 10% reduction in the future free operating cash flow, a 10% increase in the WACC, or a one-percentage-point reduction in the long-term growth rate. On this basis, there would be no need to recognize an impairment loss for any of the cash-generating units.

The same applies at the measurement date to other deviations from the assumptions used in the impairment testing that were deemed possible.

Fair value

According to IFRS 13 (Fair Value Measurement), fair value is the price that would be received to sell an asset or paid to transfer a liability at the measurement date in an orderly transaction in a primary market or, if such is not available, in the most favorable market to which the Covestro Group has access at that time. In essence, the fair value of a liability reflects the risk of nonfulfillment.

If available, the Covestro Group calculates the fair value of a financial instrument based on quoted prices in an active market for this instrument. A market is regarded as active when transactions for the respective asset or liability take place with sufficient frequency and volume to provide regular pricing information at the reporting date.

If no quoted prices on an active market exist, measurement methods are used which maximize the use of relevant observable inputs and minimize the use of non-observable inputs. All factors taken into account by market participants in pricing such a transaction are incorporated into the relevant method of measurement.

Depending on the asset or liability category, specific information is provided about the principles for using or determining fair value. In the Covestro Group, this generally applies to items in the financial statements as well as disclosures in the notes.

Impairment losses

The Covestro Group calculates a risk provision for expected credit losses for the following items:

- financial assets measured at amortized cost,
- debt instruments measured at fair value through other comprehensive income,
- financial guarantees and loan commitments,
- contract assets.

For financial instruments without a significant increase in credit risk since initial recognition, the amount of the risk provision for expected credit losses equals the credit losses expected to occur within the next twelve months. For financial instruments with a significant increase in credit risk, a risk provision is calculated in the amount of the credit losses expected over their residual maturity.

Relevant data from within and outside the company that can be obtained with reasonable effort is considered when determining whether the credit risk has increased substantially since initial recognition. For instance, the financial data of counterparties or customers, ratings, the payment histories of counterparties or customers, and forward-looking information are all assessed. It is assumed that a significant increase in credit risk has occurred when the financial asset is more than 30 days past due.

A default event has occurred when the Covestro Group comes to the conclusion that the counterparty is highly unlikely to be able to meet its payment obligations in full.

In the case of trade accounts receivable and contract assets, the amount of the risk provision is equal to the credit losses expected over their remaining term.

At each reporting date, the Covestro Group determines whether financial assets measured at amortized cost or at fair value through other comprehensive income are credit impaired. Indicators of credit impairment of a financial asset include observable data regarding the following events:

- significant financial difficulties of the issuer or borrower,
- a breach of contract, such as default or delinquency,
- concessions that Covestro makes to the borrower for financial or legal reasons relating to the financial difficulties of the borrower that it would not otherwise make,
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganization,
- the loss of an active market for this financial asset.

The gross carrying amount of a financial asset is derecognized when the Covestro Group comes to the conclusion that the counterparty is no longer able to meet its payment obligations. Following derecognition, the Covestro Group assumes that it will no longer be able to recover any significant amounts.

Accounting policies and valuation principles applied as of December 31, 2018

Leases

Leases are classified as either finance or operating leases. Leasing transactions that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are treated as finance leases.

Where the Covestro Group is the lessee in a finance lease, the leased asset is capitalized at the lower of the fair value of the asset and the present value of the minimum lease payments at the beginning of the lease term and simultaneously recognized under financial liabilities. The minimum lease payments are divided into the interest portion and the principal portion of the remaining obligation, which is determined using the effective interest method. The leased asset is depreciated using the straight-line method over the shorter of its estimated useful life or the lease term.

4. Segment and Regional Reporting

The Board of Management of Covestro AG, as the chief operating decision maker of the Covestro Group, allocates resources to the operating segments and assesses their performance. The reportable segments and regions are identified, and the disclosures selected, in line with the internal financial reporting system (management approach). These are based on the same accounting policies as described for the Covestro Group in note 3 "Accounting Policies and Valuation Principles."

As of December 31, 2019, the Covestro Group comprises three reportable segments with the following activities:

Polyurethanes

The Polyurethanes segment develops, produces and markets high-quality precursors for polyurethanes. These precursors are toluene diisocyanate (TDI), diphenylmethane diisocyanate (MDI) and polyether polyol. Flexible polyurethane foam is used primarily in the furniture and automotive industries (e.g. in upholstered furniture, mattresses and car seats). Rigid foam is used mainly in the construction industry as an insulating material as well as along the entire refrigeration chain. The segment operates production facilities worldwide as well as systems houses for formulating and supplying customized polyurethane systems.

Polycarbonates

The Polycarbonates segment develops, produces and markets the high-performance plastic polycarbonate in the form of granules, composite materials and semifinished products (sheets). The material is used primarily in the automotive industry (e.g. in the passenger compartment and for vehicle lighting) and in the construction industry (e.g. for roof structures). It is also used in the electrical and electronics industry (e.g. for connector housings, computer cases and DVDs), the medical technology sector and the lighting industry (e.g. for LED components). The Covestro Group produces polycarbonate all around the world and processes it at compounding centers to meet specific customer requirements.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties segment develops, produces and markets precursors for coatings, adhesives and sealants as well as specialties – primarily for polyurethane systems. They include polymer materials and aqueous dispersions based on the isocyanates HDI and IPDI, which are produced at facilities located throughout the world. The main areas of application are automotive and transportation, infrastructure and construction, wood processing, and furniture. The specialties comprise elastomers, high-quality films and precursors for the cosmetics, textiles, and health care sectors.

Business activities that cannot be allocated to any of the aforementioned segments are reported under **"All other segments"**. The external sales from these activities are generated mainly from by-products of chlorine production and use.

The costs of Corporate Center functions and higher or lower expenses for long-term stock-based compensation arising from fluctuations in the performance of Covestro AG stock are presented in the segment reporting as **"Corporate Center and reconciliation."**

The segment data are calculated as follows:

- Core volume growth* refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of precursors and by-products such as hydrochloric acid, sodium hydroxide solution, and styrene. These transactions are not included in core volume growth.
- EBIT and EBITDA are not defined in the International Financial Reporting Standards. EBIT is equal to income after income taxes plus financial result and income taxes. EBITDA is the EBIT as reported in the income statement plus depreciation and impairment losses on property, plant, and equipment and amortization and impairment losses on intangible assets, less impairment loss reversals.
- Free operating cash flow is the operating cash flows less cash outflows for additions to property, plant, and equipment and intangible assets. As a component of operating cash flows, income taxes paid are not directly attributed to any particular unit of the company. For purposes of calculating operating cash flows, the income taxes paid of a reporting segment are determined according to the management approach by multiplying the effective tax rate (ETR) expected for the fiscal year by that segment's EBIT.
- Working capital comprises inventories plus trade accounts receivable, less trade accounts payable.

The following tables show the segment reporting data:

Key data by segment

				Other/ Consolidation		
	Polyurethanes	Polycarbonates	Coatings, Adhesives, Specialties	All other segments	Corporate Center and reconciliation	Covestro Group
	€ million	€ million	€ million	€ million	€ million	€ million
2019						
Sales	5,779	3,473	2,369	791	–	12,412
Core volume growth[1]	+2.3%	+2.7%	–1.0%			+2.0%
EBITDA	648	536	469	13	(62)	1,604
EBIT	250	300	352	12	(62)	852
Free operating cash flow	32	404	191	(87)	(67)	473
Cash outflows for additions to property, plant and equipment and intangible assets	543	209	158	–	–	910
Depreciation, amortization and impairment losses	(398)	(236)	(117)	(1)	–	(752)
of which impairment losses	(5)	(22)	(1)	–	–	(28)
of which impairment loss reversals	–	1	–	–	–	1
Research and development expenses	(94)	(81)	(95)	3	1	(266)
2018						
Sales	7,362	4,051	2,361	842	–	14,616
Core volume growth[1]	+0.8%	+3.0%	+2.3%			+1.5%
EBITDA	1,763	1,036	464	9	(72)	3,200
EBIT	1,412	861	371	8	(72)	2,580
Free operating cash flow	972	468	203	93	(67)	1,669
Cash outflows for additions to property, plant and equipment and intangible assets	414	186	106	1	–	707
Depreciation, amortization and impairment losses	(351)	(175)	(93)	(1)	–	(620)
of which impairment losses	(2)	(4)	(1)	–	–	(7)
of which impairment loss reversals	–	–	–	–	–	–
Research and development expenses	(102)	(79)	(90)	(6)	1	(276)

[1] Reference values calculated based on the definition of the core business effective March 31, 2019. Not an IFRS KPI, reported voluntarily

* Not an IFRS KPI, reported voluntarily

Working capital by segment

	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Polyurethanes	1,018	860
Polycarbonates	769	562
Coatings, Adhesives, Specialties	500	485
Total of reportable segments	**2,287**	**1,907**
All other segments	85	73
Corporate Center	(10)	(10)
Working capital	**2,362**	**1,970**
of which inventories	2,213	1,916
of which trade accounts receivable	1,786	1,561
of which trade accounts payable	(1,637)	(1,507)

Information by geographical areas

The following table shows information by geographical area. The EMLA region consists of Europe, the Middle East, Africa and Latin America except Mexico, which together with the United States and Canada forms the NAFTA region. The APAC region includes Asia and the Pacific region.

Regional reporting[1]

	EMLA	NAFTA	APAC	Total
	€ million	€ million	€ million	€ million
2019				
Sales (external) by market	5,289	3,141	3,982	12,412
Sales (external) by point of origin	5,239	3,209	3,964	12,412
2018				
Sales (external) by market	6,284	3,469	4,863	14,616
Sales (external) by point of origin	6,234	3,555	4,828	14,616

[1] No further presentation of interregional sales is provided, as these are neither reported separately to, nor do they influence the EBIT and EBITDA reported to the Board of Management of Covestro AG.

The following table provides a breakdown by countries of external sales by market and of property, plant and equipment as well as intangible assets:

Sales (external) by market and property, plant and equipment and intangible assets by country

	Sales (external) by market	Property, plant and equipment and intangible assets
	€ million	€ million
2019		
Germany	1,557	1,834
United States	2,604	1,298
China	2,456	1,429
Other	5,795	1,103
Total	**12,412**	**5,664**
2018		
Germany	1,783	1,361
United States	2,850	1,093
China	3,106	1,479
Other	6,877	809
Total	**14,616**	**4,742**

Information on major customers

Revenues from transactions with a single customer in no case exceeded 10% of Covestro Group sales in fiscal 2019 or the previous year.

Reconciliation

The following table shows the reconciliation of EBITDA of the segments to income before income taxes of the Group:

Reconciliation of segments' EBITDA to group income before income taxes

	2018	2019
	€ million	€ million
EBITDA of reportable segments	3,263	1,653
EBITDA of all other segments	9	13
EBITDA of Corporate Center	(72)	(62)
EBITDA	**3,200**	**1,604**
Depreciation, amortization, impairment losses and impairment loss reversals of reportable segments	(619)	(751)
Depreciation, amortization, impairment losses and impairment loss reversals of all other segments	(1)	(1)
Depreciation, amortization, impairment losses and impairment loss reversals	**(620)**	**(752)**
EBIT of reportable segments	2,644	902
EBIT of all other segments	8	12
EBIT of Corporate Center	(72)	(62)
EBIT	**2,580**	**852**
Financial result	(104)	(91)
Income before income taxes	**2,476**	**761**

5. Changes in the Scope of Consolidation

5.1 Scope of consolidation and investments

As of December 31, 2019, the scope of consolidation comprised Covestro AG and 47 (previous year: 49) consolidated companies.

OOO Covestro, Moscow (Russia), was reclassified as an immaterial subsidiary in the first quarter of 2019 for reasons including the fact that local production was halted. It has therefore no longer been consolidated since the first quarter of 2019.

Effective April 1, 2019, a further 30% of the shares in DIC Covestro Polymer Ltd., Tokyo (Japan) (DCP), was acquired, and the company was subsequently consolidated. Previously, it was classified as a joint venture and accounted for using the equity method in accordance with IAS 28 (Investments in Associates and Joint Ventures).

Pure Salt Baytown LLC, Houston (United States), previously consolidated as a structured entity, was reclassified as an immaterial associate in the third quarter of 2019 and subsequently deconsolidated. The foundations of the relationships with Pure Salt have changed contractually and economically in such a way that control no longer exists.

The sale of the European systems house business to H.I.G. Capital, Miami (United States), was closed in the fourth quarter of 2019. Consequently, the entities Covestro A/S, Otterup (Denmark), Covestro B.V., Foxhol (Netherlands), and Covestro Oldenburg GmbH & Co. KG, Oldenburg, were deconsolidated.

In the second half of 2019, Covestro Procurement Services GmbH & Co. KG, Leverkusen, and Covestro Intellectual Property GmbH & Co. KG, Leverkusen, were established and consolidated. Covestro Procurement Services GmbH & Co. KG KG was established for the purpose of securing the efficient procurement of strategically important raw materials for the Covestro Group and to provide consulting on procurement strategies. Covestro Intellectual Property GmbH & Co. KG will assume management of the patents, brands, licensing agreements and other intangible assets of Covestro Deutschland AG, Leverkusen.

The Covestro Group holds 100% of the voting rights in the fully consolidated subsidiary Pearl Covestro Polyurethane Systems L.L.C, Dubai (United Arab Emirates), pursuant to a contractual agreement with the noncontrolling stockholders.

As in the previous year, the scope of consolidation as of December 31, 2019, included the joint operation LyondellBasell Covestro Manufacturing Maasvlakte V.O.F, Rotterdam (Netherlands). Pursuant to IFRS 11 (Joint Arrangements), Covestro's shares of this company's assets, liabilities, revenues and expenses are included in the consolidated financial statements in accordance with Covestro's rights and obligations. The main purpose of LyondellBasell Covestro Manufacturing Maasvlakte V.O.F is the joint production of propylene oxide (PO) for Covestro and its partner Lyondell.

Additionally, two associated companies (previous year: two associated companies and one joint venture) are accounted for in the consolidated financial statements using the equity method.

Seven (previous year: five) subsidiaries and two (previous year: one) associated companies that in aggregate are immaterial to the Covestro Group's net assets, financial position and results of operations are not consolidated but recognized at cost. The immaterial subsidiaries each accounted for no more than 0.1% of Group sales, equity or total assets.

The consolidated financial statements of Covestro are submitted to the operator of the Federal Gazette (Bundesanzeiger).

Details of subsidiaries and affiliated companies pursuant to Section 313 of the German Commercial Code (HGB) are shown in the following tables. The first table shows the following fully consolidated companies:

Fully consolidated companies

Company name	Place of business	Covestro's interest in %
EMLA		
Pearl Covestro Polyurethane Systems FZCO	Dubai (United Arab Emirates)	51
Pearl Covestro Polyurethane Systems L.L.C	Dubai (United Arab Emirates)	49[1]
Covestro (France) SNC	Fos-sur-Mer (France)	100
Covestro (Slovakia) Services s.r.o.	Bratislava (Slovakia)	100
Covestro (Tielt) NV	Tielt (Belgium)	100
Covestro Brunsbüttel Energie GmbH	Brunsbüttel (Germany)	100
Covestro Deutschland AG	Leverkusen (Germany)	100
Covestro Elastomers SAS	Romans-sur-Isère (France)	100
Covestro First Real Estate GmbH	Monheim (Germany)	100
Covestro GmbH	Leverkusen (Germany)	100
Covestro Indústria e Comércio de Polímeros Ltda.	São Paulo (Brazil)	100
Covestro Intellectual Property GmbH & Co. KG	Leverkusen (Germany)	100
Covestro International SA	Fribourg (Switzerland)	100
Covestro NV	Antwerp (Belgium)	100
Covestro Polyurethanes B.V.	Nieuwegein (Netherlands)	100
Covestro Procurement Services GmbH & Co. KG	Leverkusen (Germany)	100
Covestro S.p.A.	Milan (Italy)	99
Covestro S.r.l.	Filago (Italy)	100
Covestro Second Real Estate GmbH	Monheim (Germany)	100
Covestro Thermoplast Composite GmbH	Markt Bibart (Germany)	100
Covestro UK Limited	Cheadle (United Kingdom)	100
Covestro, S.L.	La Canonja (Spain)	100
Epurex Films GmbH & Co. KG	Walsrode (Germany)	100
MS Global AG	Köniz (Switzerland)	100
MS Holding B.V.	Nieuwegein (Netherlands)	100
NAFTA		
Covestro International Trade Services Corp.	Wilmington (United States)	100
Covestro LLC	Pittsburgh (United States)	100
Covestro PO LLC	New Martinsville (United States)	100
Covestro S.A. de C.V.	Mexico City (Mexico)	100
APAC		
Covestro (Hong Kong) Limited	Hong Kong (China)	100
Covestro (India) Private Limited	Thane (India)	100
Covestro (Shanghai) Management Co., Ltd.	Shanghai (China)	100
Covestro (Taiwan) Ltd.	Kaohsiung City (Taiwan)	95.5
Covestro (Thailand) Co., Ltd.	Bangkok (Thailand)	100
Covestro (Viet Nam) Company Limited	Ho Chi Minh City (Vietnam)	100
Covestro Far East (Hong Kong) Limited	Hong Kong (China)	100
Covestro Japan Ltd.	Tokyo (Japan)	100
Covestro Korea Corporation	Seoul (South Korea)	100
Covestro Polymers (China) Co., Ltd.	Shanghai (China)	100
Covestro Polymers (Qingdao) Co., Ltd.	Qingdao (China)	100
Covestro Polymers (Shenzhen) Co., Ltd.	Shenzhen (China)	100
Covestro Pty Ltd	Cheltenham (Australia)	100
DIC Covestro Polymer Ltd.	Tokyo (Japan)	80
Guangzhou Covestro Polymers Co., Ltd.	Guangzhou (China)	100
PT Covestro Polymers Indonesia	Jakarta (Indonesia)	99.9
Sumika Covestro Urethane Company, Ltd.	Amagasaki (Japan)	60

[1] Fully consolidated subsidiary pursuant to IFRS 10.B39

The following joint operation was included in the consolidated financial statements in line with Covestro's shares of its assets, liabilities, revenues and expenses:

Joint operation

Company name	Place of business	Covestro's interest in %
LyondellBasell Covestro Manufacturing Maasvlakte V.O.F	Rotterdam (Netherlands)	50

The following associated companies are accounted for in the consolidated financial statements using the equity method:

Associates accounted for using the equity method

Company name	Place of business	Covestro's interest in %
Paltough Industries (1998) Ltd.	Kibbuz Ramat Yochanan (Israel)	25
PO JV, LP	Wilmington (United States)	39.4

The following subsidiaries were reflected in the consolidated financial statements at amortized cost due to their immateriality:

Immaterial subsidiaries

Company name	Place of business	Covestro's interest in %
Asellion B.V.	Amsterdam (Netherlands)	100
Covestro Intellectual Property Verwaltungs GmbH	Leverkusen (Germany)	100
Covestro Polímer Anoním Şírketí	Istanbul (Turkey)	100
Covestro Polymers (Tianjin) Co., Ltd.	Tianjin (China)	100
Covestro Procurement Services Verwaltungs GmbH	Leverkusen (Germany)	100
Epurex Films Geschäftsführungs-GmbH	Walsrode (Germany)	100
OOO Covestro	Moscow (Russia)	100

The following associated company was accounted for in the consolidated financial statements at cost due to its immateriality:

Immaterial associate

Company name	Place of business	Covestro's interest in %
Pure Salt Baytown LLC	Houston (USA)	0
Technology JV, L.P.	Wilmington (United States)	33.3

The following domestic subsidiaries availed themselves in fiscal 2019 of certain exemptions granted under Section 264, Paragraph 3 or Section 264b of the German Commercial Code (HGB) regarding the preparation, auditing and publication of financial statements:

German exempt subsidiaries

Company name	Place of business	Covestro's interest in %
Covestro GmbH	Leverkusen (Germany)	100
Covestro Intellectual Property GmbH & Co. KG	Leverkusen (Germany)	100
Covestro Procurement Services GmbH & Co. KG	Leverkusen (Germany)	100
Epurex Films GmbH & Co. KG	Walsrode (Germany)	100

5.2 Acquisitions and divestitures

Acquisitions

Covestro increased its interest in DCP effective April 1, 2019, through a step acquisition of shares. DCP is a Japanese producer of thermoplastic polyurethanes, which are used, for example, in the automotive, IT, electronics, health care and sports sectors. By acquiring DCP, Covestro would like to exploit the future growth potential of the business in thermoplastic polyurethanes (TPU) in Japan. Covestro and DIC Corporation (DIC), Tokyo (Japan), previously operated this company as a joint venture in which each held a 50% interest. By acquiring a further 30% of the shares in DCP, Covestro increased its interest to 80% and thus gained control. As a result, DCP has been fully consolidated since April 1, 2019. The shares previously recognized using the equity method of accounting were remeasured at their fair value of €34 million. The remeasurement resulted in a gain of €19 million, which was recognized in other operating income. The noncontrolling interest corresponding to the remaining 20% of the shares held by DIC was determined proportionately from the net assets of DCP less goodwill. It amounted to €11 million and was recognized in equity.

The consideration transferred was €21 million and was settled by a cash transfer. The acquired net assets amounted to €66 million. The goodwill of €10 million included in the net assets reflects the anticipated sales synergies resulting from joint marketing of products over the relevant trading platforms. The goodwill is not tax deductible.

As of the date of acquisition, the above transaction had the following impact on the assets and liabilities of the Covestro Group in fiscal 2019 and led to the following cash outflow after adjustment for the cash and cash equivalents acquired:

Acquired assets and assumed liabilities (fair values at the acquisition date)

	2019
	€ million
Goodwill	10
Other intangible assets	29
Property, plant and equipment	14
Other financial assets	3
Inventories	12
Trade accounts receivable	11
Cash and cash equivalents	13
Deferred tax assets	1
Other provisions	(1)
Financial liabilities	(4)
Trade accounts payable	(9)
Other liabilities	(1)
Deferred tax liabilities	(12)
Net assets	**66**
Noncontrolling interest	(11)
Fair value of pre-existing interest	(34)
Consideration transferred	**21**
Acquired cash and cash equivalents	(13)
Net cash outflow for acquisitions	**8**

Before the acquisition, Covestro and DCP engaged in operational goods and services transactions, which were recognized by Covestro as trade accounts receivable of €1 million. These accounts were settled when DCP was acquired. In addition, DIC was granted a put option on the remaining 20% shares still held by DIC. If it exercises this put option, the sale of these remaining shares to Covestro would take effect in fiscal 2030. The put option is recognized in miscellaneous other financial liabilities while equity was reduced by the counter item recognized in retained earnings.

Since its consolidation as of April 1, 2019, DCP has contributed €31 million to sales and posted a loss of €1 million affecting the income after income taxes of the Covestro Group. Consolidation as of January 1, 2019 would have no significant impact on sales or income after income taxes of the reporting period of the Covestro Group.

Divestitures

In the third quarter of 2019, Covestro signed an agreement to divest the assets and liabilities (disposal group) of the European polycarbonate sheets business, belonging to the Polycarbonates segment, to the Serafin group, Munich (Germany). Polycarbonate sheets are extremely strong and are used primarily in the areas of industrial protection, construction systems and for advertising applications. The European polycarbonate sheets business comprises production sites in Belgium and Italy as well as central management and distribution functions in Europe. In connection with this divestiture, production-related assets and inventories amounting to €12 million and liabilities of €14 million were classified as "held for sale" in accordance with IFRS 5. Impairment losses on the assets of the disposal group resulted in a loss in the amount of €26 million, which is reported under the cost of goods sold, selling expenses and other operating expenses. This transaction should be completed in the first quarter of 2020 at the latest.

In the fourth quarter of 2019, Covestro completed the divestment of the assets and liabilities (disposal group) of the European systems house business, belonging to the Polyurethanes segment, to H.I.G. Capital, Miami (United States). The systems houses provide customers with tailored polyurethane systems. The European systems house business comprises systems houses in Denmark, Germany, Spain and the Netherlands, plus further activities in Italy. The fair value of the consideration transferred amounts to €74 million and comprises the cash transferred during the reporting period of €57 million, a contingent purchase price receivable of €9 million to be paid in fiscal 2022 (see note 24.1 "Financial instruments by category"), a deferred purchase price payments of €5 million also to be paid in fiscal 2022 and purchase price adjustments of €3 million. Within the scope of the sale, net assets of €38 million were transferred to the buyer. The gain on the disposal of this business totaling €34 million was recognized in other operating result.

Notes to the Income Statement

6. Sales

Sales are categorized according to "geographical regions and key countries," and mainly comprise sales from contracts with customers and an insignificant amount of rental and leasing sales. The table also contains a breakdown of sales by reportable segments.

Disaggregation of sales

				Other/Consolidation		
	Polyurethanes	Polycarbonates	Coatings, Adhesives, Specialties	All other segments	Corporate Center and reconciliation	Covestro Group
	€ million	€ million	€ million	€ million	€ million	€ million
2019						
EMLA	2,487	1,146	1,052	604	–	5,289
of which Germany	471	271	448	367	–	1,557
NAFTA	1,680	734	562	165	–	3,141
of which United States	1,336	597	507	164	–	2,604
APAC	1,612	1,593	755	22	–	3,982
of which China	997	1,076	378	5	–	2,456
2018						
EMLA	3,182	1,347	1,117	638	–	6,284
of which Germany	564	340	489	390	–	1,783
NAFTA	1,947	817	519	186	–	3,469
of which United States	1,528	671	468	183	–	2,850
APAC	2,233	1,887	725	18	–	4,863
of which China	1,498	1,221	383	4	–	3,106

The following table presents the opening and closing balances of trade accounts receivable, contract assets, and contract liabilities:

Contract balances

	Jan. 1, 2018	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million	€ million
Trade accounts receivable	1,864	1,786	1,561
Contract assets	59	52	43
Contract liabilities	42	28	18

Contract assets are recognized in case the right to consideration in exchange for goods or services that have been transferred to a customer is conditional. This occurs primarily in the event of goods delivered to consignment warehouses of external customers. Contract assets are recognized as receivables upon invoicing.

Contract liabilities are recognized for advance payments received from customers prior to transferring goods or services. These contract liabilities are recognized as sales when the goods or services have been transferred.

Sales from performance obligations satisfied (or partially satisfied) in previous periods and recognized in fiscal 2019 amounted to €5 million (previous year: €2 million).

The changes in contract assets and contract liabilities in the reporting period resulted from the following circumstances:

Reconciliation of contract assets

	2018	2019
	€ million	€ million
Transfers from contract assets recognized at the beginning of the period to trade accounts receivable	(57)	(51)
Increases due to performance obligations fulfilled but not billed at the reporting date	48	39
Catch-up adjustments to revenue that affect the corresponding contract asset	2	3
Total	**(7)**	**(9)**

Reconciliation of contract liabilities

	2018	2019
	€ million	€ million
Revenue recognized that was included in the contract liability balance at the beginning of the period	(38)	(28)
Increases due to cash received, excluding amounts recognized as revenue during the period	28	18
Catch-up adjustments to revenue that affect the corresponding contract liability	(4)	–
Total	**(14)**	**(10)**

The following table provides the transaction price allocated to the remaining performance obligations as of balance sheet date. The total amount is divided according to the reporting period when it is expected to be recognized:

Transaction price allocated to the remaining performance obligations

	Dec. 31, 2018		Dec. 31, 2019
	€ million		€ million
2019	480	2020	448
2020	316	2021	386
2021	289	2022	426
2022	309	2023	283
2023	213	2024	182
2024 or later	116	2025 or later	83
Total	**1,723**	**Total**	**1,808**

The disclosures on the transaction price allocated to the remaining performance obligations is based on long-term supply contracts according to IFRS 15 (Revenue from Contract with Customers) which stipulate minimum volumes to be purchased as agreed between both parties.

Performance obligations from contracts with an original expected term of twelve months or less are excluded. Similarly, the disclosure of the transaction price excludes performance obligations satisfied over time for which Covestro has the right to consideration in an amount that corresponds directly with the value to the customer of the performance completed to date and for which Covestro may recognize revenue in the amount to which Covestro has the right to invoice.

The transaction price only includes variable consideration arising from contracts with customers, like sales- or volume-based rebates or price formulas, for which the prices are derived from external, market based indices, to the extent that they are not constrained as defined in IFRS 15.

7. Other Operating Income

Other operating income was comprised as shown in the following table:

Other operating income

	2018	2019
	€ million	€ million
Gains on retirements of noncurrent assets	54	6
Gains from derivatives	5	2
Reversals of impairment losses on receivables	5	7
Reversals of unutilized provisions	2	2
Miscellaneous operating income	57	164
Total	**123**	**181**

Gains from derivatives in fiscal years 2018 and 2019 resulted from embedded derivatives.

Miscellaneous operating income for the reporting period primarily included insurance reimbursements amounting to €63 million (previous year: €29 million) and €34 million from the sale of the European systems house business in the Polyurethanes segment to H.I.G. Capital, Miami (United States). Furthermore, shares in DIC Covestro Polymer Ltd., Tokyo (Japan), previously accounted for using the equity method, were remeasured at fair value in connection with the gradual share increase of the holding from 50% to 80%, resulting in income of €19 million.

See note 5.2 “Acquisitions and divestitures” for further information.

8. Other Operating Expenses

Other operating expenses were comprised as shown in the following table:

Other operating expenses

	2018	2019
	€ million	€ million
Losses on retirements of noncurrent assets	(9)	(7)
Impairment losses on receivables	(6)	(7)
Losses from derivatives	(4)	(5)
Miscellaneous operating expenses	(47)	(46)
Total	**(66)**	**(65)**

Losses from derivatives in fiscal years 2018 and 2019 resulted from embedded derivatives and currency hedges.

Miscellaneous operating expenses in fiscal 2019 included insurance expenses amounting to €13 million (previous year: €16 million). In fiscal years 2018 and 2019, the remaining amount consisted of numerous individually immaterial items.

9. Personnel Expenses and Employee Numbers

Personnel expenses in fiscal 2019 were comprised as shown in the following table:

Personnel expenses

	2018	2019
	€ million	€ million
Salaries	(1,610)	(1,388)
Social expenses and expenses for pensions and other benefits	(348)	(374)
of which for defined contribution pension plans	(88)	(96)
of which for defined benefit and other pension plans	(105)	(107)
Total	**(1,958)**	**(1,762)**

Personnel expenses decreased in fiscal 2019 primarily due to significantly lower expenses for short-term variable compensation under the Group-wide Covestro Profit Sharing Plan (Covestro PSP).

For further information on the components of Covestro PSP, see “Compensation Report” in the combined management report.

Average number of employees

	2018	2019
Production	10,348	10,955
Marketing and distribution	3,580	3,438
Research and development	1,104	1,210
General administration	1,575	1,539
Total	**16,607**	**17,142**
Employees in vocational training	482	515

The number of employees on either permanent or temporary contracts is stated in full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours. The figures do not include employees in vocational training.

10. Financial Result

10.1 Result from investments in affiliated companies

The result from investments in affiliated companies comprised mainly the loss of €23 million (previous year: loss of €25 million) from PO JV, LP, Wilmington, NC (USA), an associate accounted for using the equity method, and the gain of €1 million from Paltough Industries (1998) Ltd., Kibbuz Ramat Yochanan (Israel), accounted for using the equity method (previous year: €3 million from Paltough Industries (1998) Ltd. and DIC Covestro Polymer Ltd., Tokyo (Japan)). In addition, this item includes €2 million (previous year: €1 million) in dividend income from other investments. Further details of the companies accounted for using the equity method are given in note 15 "Investments Accounted for Using the Equity Method."

10.2 Net interest expense

Net interest expense was comprised as shown in the following table:

Net interest expense

	2018	2019
	€ million	€ million
Expenses		
Interest and similar expenses	(38)	(48)
Interest expenses for fx-derivatives	(44)	(37)
Income		
Interest and similar income	10	7
Interest income from fx-derivatives	25	33
Total	**(47)**	**(45)**

Interest and similar expenses primarily resulted from interest expenses from leases totaling €33 million (previous year: €14 million) and Covestro AG loans totaling €14 million (previous year: €14 million). Interest expense and interest income from forward exchange contracts included interest rate-induced fair value changes and the forward element.

10.3 Other financial result

The other financial result was comprised as shown in the following table:

Other financial result

	2018	2019
	€ million	€ million
Interest portion of interest-bearing provisions	(32)	(27)
Exchange gain/(loss)	–	5
Miscellaneous financial expenses	(4)	(4)
Total	**(36)**	**(26)**

The interest portion of interest-bearing provisions comprised €31 million (previous year: €25 million) in interest expense for pension and other post employment benefit provisions plus €4 million in effects of interest income (previous year: interest expense of €7 million) from interest rate fluctuations for other provisions and corresponding overfunding.

11. Taxes

The breakdown of tax expenses by type is shown in the table below:

Income taxes

	2018	2019
	€ million	€ million
Current taxes	(696)	(126)
of which tax expense current year	(677)	(174)
of which tax expense prior years	(19)	48
Deferred taxes	49	(78)
of which from temporary differences	51	(82)
of which from tax loss carryforwards and tax credits	(2)	4
Total	**(647)**	**(204)**

The deferred tax assets and liabilities were allocated to the items in the statements of financial position as shown in the table below:

Deferred tax assets and liabilities

	Dec. 31, 2018			Dec. 31, 2019		
	Deferred tax assets	Deferred tax liabilities	of which recognized in profit or loss	Deferred tax assets	Deferred tax liabilities	of which recognized in profit or loss
	€ million	€ million	€ million	€ million	€ million	€ million
Intangible assets	49	(19)	30	38	(15)	23
Property, plant and equipment[1]	144	(194)	(50)	129	(318)	(188)
Financial assets	–	(60)	(60)	1	(75)	(73)
Inventories	40	(2)	38	42	(1)	41
Receivables	4	(13)	(9)	17	(5)	12
Provisions for pensions and other post-employment benefits	530	(27)	(21)	632	(23)	(12)
Other provisions	91	(21)	70	39	(18)	22
Liabilities[1]	105	(2)	101	195	(1)	194
Tax loss carryforwards	4	–	4	8	–	8
Total	**967**	**(338)**	**103**	**1,101**	**(456)**	**25**
of which noncurrent	881	(301)		1,002	(415)	
Offsetting	(185)	185		(250)	250	
Recognition	**782**	**(153)**		**851**	**(206)**	

[1] The figures as of December 31, 2019, include right-of-use assets and lease liabilities from initial application of IFRS 16.

Of the total tax loss carryforwards of €42 million (previous year: €17 million), an amount of €42 million (previous year: €16 million) is expected to be usable within a foreseeable period. The increase in loss carryforwards was mainly due to the growth of tax loss carryforwards in the reporting year and tax reassessments for prior years. Deferred tax assets of €8 million (previous year: €4 million) were recognized for the amount of loss carryforwards expected to be usable.

No use of tax loss carryforwards was subject to legal or economic restrictions with regard to its usability (previous year: €1 million). Consequently, no deferred tax assets were recognized for this amount.

No material tax credits were recorded in either the reporting year or the prior year.

Unusable tax loss carryforwards will expire as shown in the table below:

Expiration of unusable tax loss carryforwards

	Tax loss carryforwards	
	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Within one year	–	–
Within two years	–	–
Within three years	–	–
Within four years	–	–
Within five years	–	–
Thereafter	1	–
Total	**1**	**–**

In fiscal 2019, subsidiaries that reported losses for the reporting year or the previous year recognized net deferred tax assets totaling €627 million (previous year: €7 million) from temporary differences and tax loss carryforwards, of which €5 million (previous year: €1 million) were recognized from tax loss carryforwards. These assets were considered to be unimpaired because the companies concerned were expected to generate taxable income in the future.

In the reporting year, deferred tax liabilities of €31 million (previous year: €21 million) were recognized for planned dividend distributions by subsidiaries. No deferred tax liabilities were recognized for temporary differences of €48 million (previous year: €71 million) relating to shares in subsidiaries, as it is unlikely that these temporary differences will reverse in the foreseeable future.

The reported tax expense of €204 million (previous year: €647 million) for fiscal 2019 was €15 million higher (previous year: €56 million) than the expected tax expense of €189 million (previous year: €591 million) that would have resulted from applying an expected weighted average tax rate to the pre-tax income of the Covestro Group. This average tax rate was derived from the expected tax rates of the individual Group companies and amounted to 24.8% in fiscal 2019 (previous year: 23.9%). The effective tax rate was 26.8% (previous year: 26.1%).

The reconciliation of expected to actual income tax expense and of the expected to the effective tax rate for the Covestro Group is shown in the following table:

Reconciliation of expected to actual income tax expense

	2018		2019	
	€ million	%	€ million	%
Expected income tax expense and expected tax rate	**591**	**+23.9**	**189**	**+24.8**
Reduction in taxes due to tax-free income	(21)	–0.8	(33)	–4.3
Increase in taxes due to non-tax-deductible expenses	58	+2.2	47	+6.1
Tax income (–) and expenses (+) relating to other periods	–	–	(19)	–2.5
Tax effects of change in tax rates	(1)	–	5	+0.7
Other tax effects	20	+0.8	15	+2.0
Actual income tax expense and effective tax rate	**647**	**+26.1**	**204**	**+26.8**

12. Earnings per Share

Earnings per share are calculated according to IAS 33 (Earnings per Share) as the relationship of the Group's income after income taxes (net income) for the fiscal year to the weighted average number of outstanding no-par voting shares of Covestro AG. Since November 21, 2017, Covestro AG has been acquiring treasury shares as part of a share buy-back program, which was terminated on December 4, 2018. In fiscal 2019, a weighted average number of outstanding no-par voting shares of 182,728,724 was used to calculate earnings per share, while in fiscal 2018, these shares amounted to 192,768,826.

Earnings per share

	2018	2019
	€ million	€ million
Income after income taxes	1,829	557
of which attributable to noncontrolling interest	6	5
of which attributable to Covestro AG stockholders (net income)	1,823	552
	Shares	Shares
Weighted average number of outstanding no-par voting shares of Covestro AG	192,768,826	182,728,724
	€	€
Basic earnings per share	9.46	3.02
Diluted earnings per share	9.46	3.02

Notes to the Statement of Financial Position

13. Goodwill and Other Intangible Assets

Changes in intangible assets in 2019

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2018	**256**	**28**	**105**	**97**	**157**	**176**	**15**	**834**
Acquisitions	10	–	–	–	–	29	–	39
Capital expenditures	–	–	–	–	2	1	23	26
Retirements	–	–	–	–	(2)	–	–	(2)
Transfers	–	–	1	–	1	–	(2)	–
Transfers (IFRS 5)	(3)	–	(14)	(8)	(4)	–	–	(29)
Exchange differences	2	–	–	1	2	(1)	–	4
Cost of acquisition or generation, December 31, 2019	**265**	**28**	**92**	**90**	**156**	**205**	**36**	**872**
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2019	1	14	78	86	147	168	–	494
Carrying amounts, December 31, 2019	**264**	**14**	**14**	**4**	**9**	**37**	**36**	**378**
Amortization and impairment losses in 2019	1	1	7	2	5	4	–	20
Amortization	–	1	7	2	5	4	–	19
Impairment losses	1	–	–	–	–	–	–	1

The impairment losses amounted to €1 million (previous year: €0 million) in the reporting year. No reversals of impairment losses were recognized either in the reporting period or in the reference period.

The impairment testing procedure for goodwill and other intangible assets is explained under “Procedure used in global impairment testing and its impact” in note 3 “Accounting Policies and Valuation Principles.”

Changes in intangible assets in 2018

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2017	**253**	**30**	**105**	**96**	**147**	**176**	**9**	**816**
Capital expenditures	–	–	–	–	3	1	12	16
Retirements	–	–	–	–	(1)	(1)	–	(2)
Transfers	–	–	–	–	6	–	(6)	–
Transfers (IFRS 5)	(1)	(2)	–	–	–	(1)	–	(4)
Exchange differences	4	–	–	1	2	1	–	8
Cost of acquisition or generation, December 31, 2018	**256**	**28**	**105**	**97**	**157**	**176**	**15**	**834**
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2018	–	13	85	92	147	164	–	501
Carrying amounts, December 31, 2018	**256**	**15**	**20**	**5**	**10**	**12**	**15**	**333**
Amortization and impairment losses in 2018	–	1	7	2	9	2	–	21
Amortization	–	1	7	2	9	2	–	21

Goodwill that is of material significance for the Covestro Group was allocated to the following cash-generating units at the end of the reporting period:

Material goodwill by cash-generating unit

	Cash-generating unit	Dec. 31, 2018	Dec. 31, 2019
Reporting segment		€ million	€ million
Polyurethanes (PUR)	MDI	61	60
Polyurethanes (PUR)	Polyether polyol	23	22
Polycarbonates (PCS)	PCS	121	121
Coatings, Adhesives, Specialties (CAS)	BMI	38	48
Coatings, Adhesives, Specialties (CAS)	Resins	10	10

The increase of €10 million in the goodwill of the cash-generating unit BMI is attributable to the acquisition of DIC Covestro Polymer Ltd., Tokyo (Japan).

14. Property, Plant and Equipment

Changes in property, plant and equipment in 2019

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2018	**3,098**	**11,486**	**533**	**850**	**15,967**
Changes in scope of consolidation	–	(73)	–	–	(73)
Initial application IFRS 16	268	154	238	–	660
Acquisitions	5	7	1	2	15
Capital expenditures	63	165	56	698	982
Retirements	(46)	(253)	(75)	–	(374)
Transfers	28	321	17	(366)	–
Transfers (IFRS 5)	(39)	(81)	(11)	(1)	(132)
Exchange differences	50	130	7	5	192
Cost of acquisition or construction, December 31, 2019	**3,427**	**11,856**	**766**	**1,188**	**17,237**
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2019	2,026	9,425	500	–	11,951
Carrying amounts, December 31, 2019	**1,401**	**2,431**	**266**	**1,188**	**5,286**
Depreciation and impairment losses in 2019	149	499	84	1	733
Depreciation	138	485	83	–	706
Impairment losses	11	14	1	1	27
Impairment loss reversals in 2019	–	(1)	–	–	(1)

The deconsolidation of Pure Salt Baytown LLC, Houston (United States), resulted in a decrease in the historical cost of acquisition or construction of plant installations and machinery due to changes in the scope of consolidation amounting to €73 million, a corresponding derecognition of accumulated depreciation of €65 million and the carrying amount of €8 million. Initial application of IFRS 16 resulted in an increase in cost of acquisition or construction in property, plant and equipment. See note 2.1 “Financial reporting standards applied for the first time in the reporting period” for effects of initial application.

Impairment losses of €1 million were reversed for property, plant, and equipment in the reporting year (previous year: €0 million).

Changes in property, plant and equipment in 2018

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2017	**3,186**	**11,166**	**509**	**517**	**15,378**
Capital expenditures	10	118	26	543	697
Retirements	(153)	(78)	(13)	–	(244)
Transfers	34	175	9	(218)	–
Transfers (IFRS 5)	(12)	(45)	–	–	(57)
Exchange differences	33	150	2	8	193
Cost of acquisition or construction, December 31, 2018	**3,098**	**11,486**	**533**	**850**	**15,967**
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2018	1,904	9,207	447	–	11,558
Carrying amounts, December 31, 2018	**1,194**	**2,279**	**86**	**850**	**4,409**
Depreciation and impairment losses in 2018	95	471	33	–	599
Depreciation	92	467	33	–	592
Impairment losses	3	4	–	–	7

Borrowing costs of €6 million were capitalized in property, plant, and equipment in the reporting year as part of the cost of qualifying assets (previous year: €4 million). The capitalization rate applied amounted to 1.4% on average (previous year: 1.4%).

14.1 Leasing

Covestro as lessee

The right-of-use assets from leases are reported in capitalized property, plant and equipment.

The following table shows the changes in carrying amounts of right-of-use assets from January 1, 2019, to December 31, 2019.

Changes in right-of-use assets in 2019

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Total
	€ million	€ million	€ million	€ million
Carrying amounts, January 1, 2019	**351**	**288**	**239**	**878**
Additions	43	12	36	91
Retirements	(22)	(1)	(50)	(73)
Depreciation and impairment losses	(53)	(53)	(51)	(157)
Other changes	10	4	4	18
Carrying amounts, December 31, 2019	**329**	**250**	**178**	**757**

Right-of-use assets relate mainly to leases for production and logistics infrastructure and real estate leases. Some of the underlying leases include variable lease payments as well as options to extend or terminate the lease (for further details, see note 3 “Accounting Policies and Valuation Principles”). Leases for production and logistics infrastructure are mainly related to the rental of tanks and containers as well as rail cars. For tanks and containers, the average lease term is 14 years and for rail cars, nine years. Leases for renting real estate, particularly buildings, are for an average lease term of nine years.

The following table shows the amounts for all leases shown in the statement of cash flows and income statement:

Expenses and cash outflows for leases

	2019
	€ million
Amounts reported in the statement of cash flows	
Total cash outflow for leases	196
Amounts reported in the income statement	
Depreciation and impairment losses	157
Interest expense	33
Expenses relating to short-term leases	16
Expenses relating to leases of low-value assets	3
Expenses relating to variable lease payments not included in the lease liability	1

The lease commitments for current leases not recognized on the balance sheet amount to €2 million.

For information on the liabilities arising from leases, see note 22 "Financing and Financial Liabilities." For further details on payments from leases, see note 27 "Notes to the Statement of Cash Flows."

Covestro as lessor

In fiscal 2019, leasing income generated from lease contracts under IFRS 16 (Leases) was €12 million. These are mainly related to real estate. In addition, lease payments from rentals of €8 million are expected to be received in the following year, not including the investment property as outlined below. Lease payments totaling €8 million are expected to be received in 2021–2024, and lease payments totaling €5 million after 2024.

At Covestro, risks from renting real estate are usually limited by building insurance policies and by the contractual obligation of the renter to return the real estate to its original condition. In addition, price adjustments based mainly on the consumer price index mechanisms are contractually agreed.

14.2 Investment property

Internal valuations are used as the primary basis for determining the fair values of investment property. The income approach is used for buildings and developed sites, and the market comparison approach is used for undeveloped sites.

The total carrying amount of investment property as of December 31, 2019, amounted to €31 million (previous year: €36 million), and its fair value totaled €211 million (previous year: €211 million). The rental income from investment property was €17 million (previous year: €26 million) and the operating expenses directly allocable to this property amounted to €14 million (previous year: €13 million). In the reporting period and in the previous year, there were no operating expenses recognized for investment property not generating any rental income.

Rental income generated from the leasing of properties classified as investment properties stemmed in part from contracts for hereditary building rights and leases granted by the Covestro Group. These contracts with a weighted average remaining term of 37 years relate to space used by companies and contractual partners in the chemical industry at production sites in Germany. Based on current rental prices, around €5 million in compensation will be received annually from these long-term contracts for the use of this space in the coming years.

15. Investments Accounted for Using the Equity Method

An overview of the investments accounted for using the equity method can be found in note 5.1 “Investments Accounted for Using the Equity Method.” The two following tables contain summarized data from the income statement and statement of financial position of the associate PO JV, LP, Wilmington (United States), which is accounted for using the equity method, and show the respective amounts recognized in the financial statements of the Covestro Group.

In fiscal 2000, the polyols business and parts of the propylene oxide (PO) production operations of Lyondell Chemicals were acquired with the objective of ensuring access to patented technologies and safeguarding the long-term supply of PO, a starting product for polyurethanes. As part of this strategy, a company was established to jointly produce PO (PO JV, LP, in which Covestro continues to hold a 39.4% interest). Covestro benefits from fixed long-term supply quotas/volumes of PO from this company’s production.

Income statement data of PO JV, LP, Wilmington (United States)

	2018	2019
	€ million	€ million
Sales	2,078	1,413
Net loss after taxes	(54)	(59)
Share of net loss after taxes	(25)	(23)
Share of total comprehensive income after taxes	**(25)**	**(23)**

Data from the statements of financial position of PO JV, LP, Wilmington (United States)

	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Noncurrent assets	399	436
Equity	415	436
Share of equity	**189**	**185**
Other	(9)	(15)
Carrying amount	**180**	**170**

The item “Other” mainly comprised differences arising from adjustments of data to Covestro’s uniform accounting policies, purchase price allocations and their subsequent measurement.

The following table contains the income statement data and the carrying amount of the other associates accounted for using the equity method:

Income statement data and carrying amounts of other investments accounted for using the equity method

	2018	2019
	€ million	€ million
Income after taxes	8	5
Share of income after taxes	3	1
Share of total comprehensive income after taxes	**3**	**1**
Carrying amount	**34**	**22**

16. Other Financial Assets

The other financial assets were comprised as follows:

Other financial assets

	Dec. 31, 2018		Dec. 31, 2019	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Loans	12	2	16	11
Other investments	7	–	13	–
Receivables from derivatives	20	14	22	16
Receivables under lease agreements	9	1	8	–
Total	**48**	**17**	**59**	**27**

Receivables from derivatives included €15 million (previous year: €12 million) in forward exchange contracts and €7 million (previous year: €8 million) in embedded derivatives. Further information is given in note 24.2 “Financial risk management and information on derivatives.”

Receivables under lease agreements relate to finance leases where Covestro is the lessor and the economic owner of the leased assets is the contractual partner. Receivables under lease agreements are based on expected lease payments of €34 million (previous year: €35 million) including an interest component of €26 million (previous year: €26 million). In the reporting period, interest income of €1 million (previous year: €1 million) was recognized. Of the expected lease payments, €1 million is due within one year (previous year: €1 million), €3 million is due within the following four years (previous year: €3 million) and €30 million is due in subsequent years (previous year: €31 million).

17. Inventories

Inventories were comprised as follows:

Inventories

	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Raw materials and supplies	660	592
Work in process, finished goods and goods purchased for resale[1]	1,551	1,323
Advance payments	2	1
Total	**2,213**	**1,916**

[1] In fiscal 2019, the share of work in process comprises approximately 19% (previous year: approximately 19%).

In fiscal 2019, impairment losses on inventories of €32 million (previous year: €18 million) and reversals of impairment losses of €9 million (previous year: €3 million) were recognized through profit or loss in cost of goods sold.

18. Other Receivables

The other receivables were comprised as follows:

Other receivables

	Dec. 31, 2018		Dec. 31, 2019	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax receivables	174	166	197	175
Deferred charges	74	70	75	70
Contract Assets	52	52	43	43
Net defined benefit asset	1	–	2	–
Receivables from employees	6	6	9	9
Receivables from divestments	–	–	17	3
Miscellaneous receivables	71	52	68	59
Total	**378**	**346**	**411**	**359**

The miscellaneous receivables included an advance payment in the amount of €7 million (previous year: €12 million), which is offset against monthly purchases. Other receivables included €41 million (previous year: €35 million) in financial receivables. The impairment losses calculated for financial receivables as of the reporting date are immaterial.

Further information on contract assets is given in note 6 “Sales.”

19. Equity

The individual components of equity and changes in equity in 2018 and 2019 are presented in the Covestro Group consolidated statement of changes in equity.

Capital stock

The capital stock of Covestro AG changed as follows in 2019:

Change in capital stock

	Number of shares	thereof Treasury shares	Shares outstand-ing	Capital stock
	number	number	number	€ million
Dec. 31, 2018	**183,000,000**	**(295,398)**	**182,704,602**	**183**
Issuance of treasury shares		160,083	160,083	–
Dec. 31, 2019	**183,000,000**	**(135,315)**	**182,864,685**	**183**

The Covestro AG’s capital stock as of December 31, 2019 is divided into 183,000,000 no-par value bearer shares and is fully paid up. Each share confers the right to one vote.

Treasury shares

160,083 treasury shares were issued to employees of the German legal entities under the Covestment stock participation program. As of December 31, 2019, the company held 135,315 treasury shares. This corresponds to 0.1% of the capital stock.

The total cost of the treasury shares held by Covestro AG at the end of the fiscal year was €7 million. They are valued using the FIFO method. The average price per share for the entire share buy-back program was €72.91 per share.

Authorized and Conditional Capital

The authorized capital and conditional capital as of December 31, 2019, were comprised as follows:

Authorized and conditional capital

	€ million	Purpose
Authorized capital 2015[1]	101	Increase in capital stock against cash contributions and/or contributions in kind (by October 2, 2020)
Conditional capital 2015[1]	1,500	Issue of warrants or conversion rights (by August 31, 2020)

[1] Requires Supervisory Board approval

Neither the authorized capital nor the conditional capital has been utilized to date.

Capital reserves

Covestro AG's capital reserves as of December 31, 2019, amounted to €3,487 million (previous year: €3,480 million). The increase is attributable to the issuance of treasury shares to employees under the Covestment stock participation program.

Dividend

The dividend available for distribution is based on the distributable profit reported in the annual financial statements of Covestro AG, which were prepared according to the provision of the German Commercial Code (HGB). The dividend proposed for fiscal 2019 amounts to €2.40 per share carrying dividend rights for a total distribution of €439 million based on the number of shares carrying dividend rights as of December 31, 2019, and depends on authorization by the stockholders at the Annual General Meeting. It is therefore not recognized as a liability in the consolidated financial statements. For fiscal 2018, a dividend of €2.40 per share carrying dividend rights was paid likewise in April 2019.

Equity attributable to noncontrolling interest

The equity attributable to noncontrolling interest mainly relates to the equity of Pearl Covestro Polyurethane Systems FZCO, Dubai (United Arab Emirates), Sumika Covestro Urethane Company, Ltd., Amagasaki (Japan), DIC Covestro Polymer Ltd., Tokyo (Japan), and Covestro (Taiwan) Ltd., Kaohsiung City (Taiwan).

The changes in equity attributable to noncontrolling interest are presented in the following table:

Components of noncontrolling interest in equity

	2018	2019
	€ million	€ million
January 1	**30**	**33**
Change in equity not recognized in profit or loss		
Exchange differences on translation of operations outside the eurozone	2	1
Other changes in equity	–	11
Dividend payments	(5)	(3)
Change in equity recognized in profit or loss	**6**	**5**
December 31	**33**	**47**

Accumulated other comprehensive income

Accumulated other comprehensive income were comprised as follows:

Accumulated other comprehensive income

	Currency translation	Fair value of financial assets	Total
	€ million	€ million	€ million
Dec. 31, 2017[1]	**253**	**1**	**254**
Changes in accounting for initial application of new IFRS		(1)	(1)
Jan. 1, 2018 adjusted	**253**	**–**	**253**
Other comprehensive income	70	–	70
Total comprehensive income	70	–	70
Dec. 31, 2018	**323**	**–**	**323**
Other comprehensive income	92	–	92
Total comprehensive income	92	–	92
Dec. 31, 2019	**415**	**–**	**415**

[1] Reference information was not restated for financial reporting standards IFRS 9 and IFRS 15.
[2] Reference information was not restated, see note 2.1 “Financial reporting standards applied for the frst time in the reporting period.”

20. Provisions for Pensions and Other Post-employment Benefits

Provisions for pensions and other post-employment benefits were recognized for defined benefit obligations. The expenses for defined contribution obligations are shown in note 9 "Personnel Expenses and Employee Numbers." The net defined benefit liability for post-employment benefit plans was accounted for as follows:

Net defined benefit liability reflected in the statement of financial position

	Pensions		Other post-employment benefits		Total	
	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million	€ million	€ million	€ million	€ million
Provisions for pensions and other post-employment benefits	**1,317**	**1,818**	**128**	**147**	**1,445**	**1,965**
of which Germany	1,189	1,699	–	–	1,189	1,699
of which other countries	128	119	128	147	256	266
Net defined benefit asset	**1**	**2**	**–**	**–**	**1**	**2**
of which Germany	1	2	–	–	1	2
of which other countries	–	–	–	–	–	–
Net defined benefit liability	**1,316**	**1,816**	**128**	**147**	**1,444**	**1,963**
of which Germany	1,188	1,697	–	–	1,188	1,697
of which other countries	128	119	128	147	256	266

The expenses for defined benefit plans and for other post-employment benefits included the components described as follows:

Expenses for defined benefit plans

	Pension plans						Other post-employment benefit plans	
	Germany		Other countries		Total		Other countries	
	2018	2019	2018	2019	2018	2019	2018	2019
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	81	83	15	15	96	98	2	2
Past service cost	7	16	–	–	7	16	–	–
Plan settlements	–	–	–	(9)	–	(9)	–	–
Service cost	**88**	**99**	**15**	**6**	**103**	**105**	**2**	**2**
Interest expense from defined benefit obligation	60	61	21	24	81	85	5	5
Interest income from plan assets	(43)	(40)	(18)	(20)	(61)	(60)	–	–
Net interest	**17**	**21**	**3**	**4**	**20**	**25**	**5**	**5**
Total expenses	**105**	**120**	**18**	**10**	**123**	**130**	**7**	**7**

In fiscal 2019, a total of €439 million (previous year: €198 million) in effects of remeasurements of the net defined benefit liability was also recognized in other comprehensive income. Of this amount, €427 million (previous year: €220 million) relate to pension obligations and €12 million (previous year: minus €22 million) to other post-employment benefit obligations.

The changes in the net defined benefit liability for post-employment benefit plans were as follows:

Changes in defined benefit obligation

	2018			2019		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**3,172**	**835**	**4,007**	**3,390**	**825**	**4,215**
Divestments	–	–	–	(4)	–	(4)
Current service cost	81	17	98	83	17	100
Past service cost	7	–	7	16	–	16
(Gains)/losses from plan settlements	–	–	–	–	(9)	(9)
Net interest	60	26	86	61	30	91
Net actuarial (gain)/loss	109	(43)	66	647	85	732
of which due to change in financial assumptions	63	(49)	14	644	92	736
of which due to change in demographic assumptions	42	(11)	31	–	(4)	(4)
of which due to experience adjustments	4	17	21	1	(1)	–
Employee contributions	9	1	10	9	1	10
Payments due to plan settlements	–	–	–	–	(1)	(1)
Benefits paid out of plan assets	(24)	(45)	(69)	(21)	(166)	(187)
Benefits paid by the company	(24)	(7)	(31)	(27)	(10)	(37)
Exchange differences	–	41	41	–	18	18
December 31	**3,390**	**825**	**4,215**	**4,154**	**790**	**4,944**
of which other post-employment benefits	–	129	129	–	148	148

Changes in fair value of plan assets

	2018			2019		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**2,233**	**592**	**2,825**	**2,202**	**571**	**2,773**
Divestments	–	–	–	–	–	–
Net interest	43	18	61	40	20	60
Adjustment of estimation techniques	–	–	–	–	–	–
Return or (expense) on plan assets excluding amounts recognized as interest result	(100)	(33)	(133)	210	83	293
Employer contributions	41	8	49	17	9	26
Employee contributions	9	1	10	9	1	10
Payments due to plan settlements	–	–	–	–	(1)	(1)
Benefits paid out of plan assets	(23)	(45)	(68)	(21)	(166)	(187)
Plan administration cost paid out of plan assets	(1)	–	(1)	–	–	–
Exchange differences	–	30	30	–	9	9
December 31	**2,202**	**571**	**2,773**	**2,457**	**526**	**2,983**
of which other post-employment benefits	–	1	1	–	1	1

Effects of the asset ceiling

	2018			2019		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**–**	**3**	**3**	**–**	**2**	**2**
Remeasurement of asset ceiling	–	(1)	(1)	–	–	–
December 31	**–**	**2**	**2**	**–**	**2**	**2**
of which other post-employment benefits	–	–	–	–	–	–

Development of the net defined benefit liability

	2018			2019		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**939**	**246**	**1,185**	**1,188**	**256**	**1,444**
Divestments	–	–	–	(4)	–	(4)
Current service cost	81	17	98	83	17	100
Past service cost	7	–	7	16	–	16
(Gains) / losses from plan settlements	–	–	–	–	(9)	(9)
Net interest	17	8	25	21	10	31
Net actuarial (gain) / loss	109	(43)	66	647	85	732
Change in estimation technique	–	–	–	–	–	–
(Return) or expense on plan assets excluding amounts recognized as interest result	100	33	133	(210)	(83)	(293)
Remeasurement of asset ceiling	–	(1)	(1)	–	–	–
Employer contributions	(41)	(8)	(49)	(17)	(9)	(26)
Employee contributions	–	–	–	–	–	–
Payments due to plan settlements	–	–	–	–	–	–
Benefits paid out of plan assets	(1)	–	(1)	–	–	–
Benefits paid by the company	(24)	(7)	(31)	(27)	(10)	(37)
Plan administration cost paid out of plan assets	1	–	1	–	–	–
Exchange differences	–	11	11	–	9	9
December 31	**1,188**	**256**	**1,444**	**1,697**	**266**	**1,963**
of which other post-employment benefits	–	128	128	–	147	147

The benefit obligations pertained mainly to Germany (84%; previous year: 80%) and the United States (12%; previous year: 15%). In Germany, current employees accounted for about 63% (previous year: 62%) of entitlements under defined benefit plans, retirees or their surviving dependents for about 29% (previous year: 31%), and former employees with vested pension rights for about 8% (previous year: 7%). In the United States, current employees accounted for about 40% (previous year: 36%) of entitlements under defined benefit plans, retirees or their surviving dependents for about 53% (previous year: 60%), and former employees with vested pension rights for about 7% (previous year: 4%).

The actual income from assets of defined benefit plans for pensions or other post-employment benefits amounted to €353 million (previous year: expense of €72 million) and €0 million (previous year: €0 million), respectively.

The following table shows the defined benefit obligations for pensions and other post-employment benefits along with the funded status of the funded obligations:

Defined benefit obligation and funded status

	Pension obligations		Other post-employment benefit obligations		Total	
	2018	2019	2018	2019	2018	2019
	€ million	€ million	€ million	€ million	€ million	€ million
Defined benefit obligation	**4,085**	**4,796**	**129**	**148**	**4,214**	**4,944**
of which unfunded	77	89	1	–	78	89
of which funded	4,008	4,707	128	148	4,136	4,855
Funded status of funded obligations						
Overfunding	2	2	–	–	2	2
Underfunding	1,238	1,727	127	147	1,365	1,874

Pension entitlements and other post-employment benefit obligations

The Covestro Group provides retirement benefits for most of its employees, either directly or by contributing to privately or publicly administered funds. The way these benefits are provided varies according to the legal, tax and economic conditions of each country, the benefits generally being based on employee compensation and years of service. The obligations relate both to existing retirees' pensions and to pension entitlements of future retirees.

Funded pension plans exist for employees in various countries. In principle, an individual investment strategy is determined for each of the Covestro Group's defined benefit pension plans taking into account the risk structure of the obligations (especially demographics, the current funded status, the structure of the expected future cash flows, interest sensitivity, biometric risks, etc.), the regulatory environment and the existing level of risk tolerance or risk capacity. A strategic target investment portfolio is then developed in line with the plan's risk structure, taking capital market factors into consideration. Further determinants are risk diversification, portfolio efficiency and the need for both a country-specific and a global risk/return profile centered on ensuring the payment of all future benefits. In principle, as the capital investment strategy for each pension plan is developed individually in light of the plan-specific conditions listed above, the investment strategies for different pension plans may vary considerably. The investment strategies are generally aligned less toward maximizing absolute returns and more toward the reasonable assurance of financing pension commitments over the long term. For plan assets, stress scenarios are simulated and other risk analyses (such as value at risk) are undertaken with the aid of risk management systems.

Bayer-Pensionskasse VVaG, Leverkusen (Germany), (Bayer-Pensionskasse), is by far the most significant of the pension plans for Covestro. It has been closed to new members since January 1, 2005. This legally independent fund is regarded as a life insurance company and is therefore subject to the German Insurance Supervision Act. The benefit obligations covered by Bayer-Pensionskasse comprise retirement, surviving dependents' and disability pensions. It is financed with contributions by the active members and by their employers. The company contribution is a certain percentage of the employee contribution. This percentage is the same for all participating employers and is set by agreement between the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. It takes into account the differences between the actuarial estimates and the actual values for the factors used to determine liabilities and contributions. Bayer AG may adjust the company contribution in agreement with the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. The plan's liability is governed by Section 1, Paragraph 1, Sentence 3 of the German Law on the Improvement of Occupational Pensions (BetrAVG). This means that if the pension plan exercises its right under the articles of association to reduce benefits, each participating employer has to make up the resulting difference. Covestro is not liable for the obligations of other participating employers, even if they cease to participate in the plan.

Pension entitlements for people hired in Germany on or after January 1, 2005, are granted via Rheinische Pensionskasse VVaG, Leverkusen (Germany), (Rheinische Pensionskasse). Future pension payments from this plan are based among other things on contributions and the return on plan assets; a guaranteed interest rate applies.

The Bayer-Pensionskasse and Rheinische Pensionskasse pension obligations are classified as multi-employer plans as defined by IAS 19 (Employee Benefits). A defining characteristic of multi-employer plans is that assets from various employers not under common control are pooled at plan level and used to collectively grant pension benefits to employees. Allocation mechanisms that would permit an exact distribution of the plan assets managed by the pension plan to individual employers often do not exist, as in the case of Bayer-Pensionskasse and Rheinische Pensionskasse. Covestro therefore applies an estimation method that is adequately suited to this purpose to calculate its proportional share of the assets of the pension plans.

Another important pension provision vehicle is Metzler Trust e.V., Frankfurt am Main (Germany), (Metzler Trust). This vehicle covers further retirement provision arrangements for German employees of the Covestro Group, such as the conversion of salary entitlements into pension entitlements, pension obligations and components of other direct commitments.

The defined benefit pension plans in the U.S. have been frozen for some years, and no significant new entitlements can be earned under these plans. The assets of all the United States pension plans are held by a master trust for reasons of efficiency. The applicable regulatory framework is based on the Employee Retirement Income Security Act (ERISA). In particular, these stipulate a statutory 80% minimum funding requirement to avoid benefit restrictions. The actuarial risks, such as investment risk, interest rate risk and longevity risk, remain with the company.

The investment strategy for German direct commitments revised in fiscal 2017 was further implemented in fiscal 2019. The changes in the investment strategy were subsequently carried out by third-party asset managers. Environmental social governance (ESG) criteria were given consideration for around 47% of the investment volume.

The risk management concept aligned with the benefit obligations (asset-liability matching) was revised for the U.S. defined benefit pension plan again in fiscal 2019. First, the actuarial obligations were analyzed and updated. Then statistical methods were applied to this information to determine an investment strategy that would ensure a suitable risk-return profile. The factors considered here included expected returns for the various asset classes and anticipated balance sheet volatility. In addition, certain benefit obligations and plan assets were transferred to an insurance company in order to further reduce actuarial risks for Covestro.

The other post-employment benefit obligations outside Germany are mainly related to retirees' health care benefit payments in the United States.

The fair value of the plan assets to fund pensions and other post-employment benefit obligations was as follows:

Fair value of plan assets as of December 31

	Pension obligations				Other post-employment obligations	
	Germany		Other countries		Other countries	
	2018	2019	2018	2019	2018	2019
	€ million	€ million	€ million	€ million	€ million	€ million
Plan assets based on quoted prices in active markets						
Real estate and special real estate funds	–	–	5	7	–	–
Equities and equity funds	387	526	55	57	–	–
Callable debt instruments	–	–	7	8	–	–
Noncallable debt instruments	657	725	126	74	–	–
Bond funds	252	408	253	245	–	–
Derivatives	2	2	–	–	–	–
Cash and cash equivalents	98	80	8	10	–	–
Other	–	–	11	10	–	–
	1,396	**1,741**	**465**	**411**	**–**	**–**
Plan assets for which quoted prices in active markets are not available						
Real estate and special real estate funds	110	120	–	–	–	–
Equities and equity funds	21	25	–	–	–	–
Callable debt instruments	262	238	–	–	–	–
Noncallable debt instruments	306	314	–	–	–	–
Bond funds	93	–	–	–	–	–
Derivatives	–	–	–	–	–	–
Cash and cash equivalents	–	–	–	–	–	–
Other	14	19	105	114	1	1
	806	**716**	**105**	**114**	**1**	**1**
Total plan assets	**2,202**	**2,457**	**570**	**525**	**1**	**1**

No properties leased by Group companies were included in the fair value of the domestic plan assets. Likewise there were no Covestro shares or bonds held through funds. The other plan assets comprise mortgage loans granted, other receivables and qualified insurance policies.

Risks

The risks from defined benefit plans arise partly from the defined benefit obligations and partly from the investment in plan assets. The risks lie in the possibility that higher direct pension payments will have to be made to the beneficiaries and/or that additional contributions will have to be made to plan assets in order to meet current and future pension obligations.

Demographic/biometric risks

Since a large proportion of the defined benefit obligations comprises lifelong pensions or surviving dependents' pensions, longer claim periods or earlier claims may result in higher benefit obligations, higher benefit expense and/or higher pension payments than previously anticipated.

Investment risks

If the actual return on plan assets were below the return anticipated on the basis of the discount rate, the net defined benefit liability would increase, assuming there were no changes in other parameters. This could happen as a result of a drop in share prices, increases in market rates of interest, default of individual debtors or the purchase of low-risk but low-interest bonds, for example.

Interest rate risks

Declining capital market interest rates, especially for high-quality corporate bonds, would increase the defined benefit obligation. This effect would be at least proportionately offset by the ensuing increase in the market values of the debt instruments held in plan assets.

Measurement parameters and their sensitivities

The bond portfolio consists exclusively of high-quality corporate bonds with a rating of at least AA or AAA. The portfolio does not include any government-guaranteed or secured bonds. The following weighted parameters were used to measure the pension obligations as of December 31 and the expense for pensions and other post-employment benefits in the respective reporting year.

Parameters for benefit obligations

	Germany		Other countries		Total	
	2018	2019	2018	2019	2018	2019
	%	%	%	%	%	%
Pension obligations						
Discount rate	1.80	1.00	3.55	2.52	2.10	1.20
Projected future salary increases	2.75	2.75	3.17	3.08	2.80	2.80
Projected future benefit increases	1.70	1.70	3.40	3.25	2.00	1.90
Other post-employment benefit obligations						
Discount rate	–	–	4.20	3.10	4.20	3.10

In Germany, the Heubeck 2018 G mortality tables were used, in the United States the adjusted RP-2014 Healthy Mortality Tables. The parameters for measuring the benefit expense are the same as those used to measure the benefit obligations in the most recent annual financial statements.

The parameter sensitivities were computed by expert actuaries based on a detailed evaluation similar to that performed to determine the net defined benefit liability. Altering individual parameters by 0.5 percentage points (mortality by 10% per beneficiary) while leaving the other parameters unchanged would have impacted pension and other post-employment benefit obligations as of the end of fiscal 2019 as follows:

Sensitivity analysis of benefit obligations

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(423)	493	(36)	40	(459)	533
0.5 percentage points change in projected future salary increases	37	(34)	3	(3)	40	(37)
0.5 percentage points change in projected future benefit increases	251	(226)	3	(2)	254	(228)
10% change in mortality	(131)	148	(12)	13	(143)	161
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(9)	10	(9)	10
10% change in mortality	–	–	(4)	4	(4)	4

Sensitivity analysis of benefit obligations (previous year)

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(329)	382	(37)	40	(366)	422
0.5 percentage points change in projected future salary increases	31	(28)	3	(2)	34	(30)
0.5 percentage points change in projected future benefit increases	199	(180)	2	(2)	201	(182)
10% change in mortality	(98)	109	(12)	14	(110)	123
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(8)	8	(8)	8
10% change in mortality	–	–	(3)	4	(3)	4

Provisions are also set up for the obligations, mainly of the U.S. subsidiary, to provide post-employment benefits in the form of health care cost payments to retirees. The valuation of health care costs was based on the assumption that they will increase at a rate of 7% (previous year: 6%), which should gradually decline to 5% (previous year: 5%) by 2023. The following table shows the impact on other post-employment benefit obligations and total benefit expense of a one percentage point change in the assumed cost increase rates:

Sensitivity analysis of health care cost increases

	2018		2019	
	Increase of one percentage point	Decrease of one percentage point	Increase of one percentage point	Decrease of one percentage point
	€ million	€ million	€ million	€ million
Impact on other post-employment benefit obligations	12	(10)	13	(11)

Employer contributions made or expected

The following payments or transfers correspond to the employer contributions made or expected to be made to funded benefit plans:

Employer contributions made or expected

	Germany				Other countries			
	2018	2019 expected	2019	2020 expected	2018	2019 expected	2019	2020 expected
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations	41	37	17	41	8	12	9	12
Other post-employment benefit obligations	–	–	–	–	–	–	–	–
Total	**41**	**37**	**17**	**41**	**8**	**12**	**9**	**12**

Pensions and other post-employment benefits payable in the future from funded and unfunded plans are estimated as follows:

Future benefit payments

	Payments out of plan assets				Payments by the Company			
	Pensions		Other post-employment benefits		Pensions		Other post-employment benefits	
	Germany	Other countries	Other countries	Total	Germany	Other countries	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2020	30	35	–	65	32	6	6	44
2021	33	35	–	68	34	6	6	46
2022	35	36	–	71	37	6	7	50
2023	39	35	–	74	40	7	7	54
2024	42	41	–	83	43	8	7	58
2025–2029	258	202	2	462	255	49	40	344

The weighted average term of the pension obligations is 22.8 years (previous year: 21.6 years) in Germany and 12.2 years (previous year: 11.4 years) in other countries. The weighted average term of the obligations for other post-employment benefits in other countries is 12.4 years (previous year: 11.9 years).

21. Other Provisions

Changes in the various provision categories in fiscal 2019 were as follows:

Changes in other provisions

	Taxes	Environ-mental protection	Restruc-turing	Trade-related commit-ments	Litigations	Personnel commit-ments	Miscella-neous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2018	**10**	**44**	**26**	**7**	**4**	**610**	**29**	**730**
Acquisitions	–	–	–	–	–	–	2	2
Additions	4	7	30	15	1	210	30	297
Utilization	(4)	(2)	(38)	(7)	(2)	(498)	(19)	(570)
Reversal	(1)	(1)	–	–	(2)	(18)	(11)	(33)
Reclassifications	–	–	–	–	–	(4)	–	(4)
Interest cost	–	–	–	–	–	6	–	6
Exchange differences	–	–	–	(1)	1	4	1	5
December 31, 2019	**9**	**48**	**18**	**14**	**2**	**310**	**32**	**433**
thereof long-term	–	44	14	–	–	158	14	230

Taxes

Provisions for taxes comprise provisions for other types of taxes amounting to €9 million (previous year: €10 million).

Environmental protection

Provisions for environmental protection mainly relate to the rehabilitation of contaminated land and recultivation of landfills as well as water protection measures at sites in the United States and Spain.

Restructuring

As of December 31, 2019, provisions for restructuring included €17 million (previous year: €26 million) for severance payments. The additions resulted primarily from the “Perspective” efficiency program, which aims to improve the cost structures in the medium term.

Personnel commitments

Personnel-related provisions are mainly those recorded for variable one-time, short-term and long-term incentive payments and other personnel-related provisions.

Long-term incentive programs

The long-term incentive programs of the Covestro Group entail commitments offered collectively to different groups of employees. In principle, all obligations from long-term compensation programs are covered by provisions. As of the reporting date, their amount corresponds to the fair value of the share of the respective commitments to the employee groups. All resulting valuation adjustments are recognized in profit or loss.

Senior executives and other managerial employees at Covestro have been entitled to participate in the stock-based compensation program Prisma. A percentage of the employee's annual base salary – based on his/her position – is defined as a target for variable payments (Prisma target opportunity). The payout is calculated by multiplying the Prisma target opportunity by the total shareholder return (total of Covestro's closing share price* and all of the dividends distributed in the respective performance period divided by the opening share price) and the performance of Covestro stock relative to the STOXX Europe 600 Chemicals benchmark index. The payout is capped at 200% of the Prisma target opportunity. If Covestro's shares were to significantly underperform the STOXX Europe 600 Chemicals index (e.g. if the price of the stock went down while the index increased in value), Prisma target attainment could amount to zero, in which case there would be no payout. Payouts are made regularly following each four-year performance period; the first award was payable in January 2020 for the performance period ending on December 31, 2019.

In addition to Prisma, Covestro continued to run the Bayer Group's formerly stock-based Aspire incentive program for performance periods that started prior to January 1, 2016. Senior executives were entitled to participate in Aspire I on the condition that they purchased a certain number of Bayer shares – determined for each individual according to specific guidelines – and retained them for the full term of the program. Middle management and managerial employees were entitled to participate in Aspire II. The terms of Aspire II generally matched those of Aspire I, except that Aspire II did not require a personal investment in Bayer stock, and the exclusive performance measure was Bayer's absolute share price performance. The payout for the last remaining tranche 2015–2018 for both Aspire programs in Januar 2019 amounted to €15 million (payout in the previous year: €18 million).

The net expense for all long-term incentive programs amounted to €16 million (previous year: €11 million), of which €5 million (previous year: €4 million) was attributable to the stock participation program Covestment, explained in greater detail in the following section.

The fair value for the stock-based incentive program Prisma recognized in the provision amounted to €53 million as of December 31, 2019 (previous year: €41 million). The fair value was calculated using the Monte Carlo simulation method on the basis of the following key parameters pertaining to the reporting date:

Monte Carlo simulation parameters

			Tranche
	2017	**2018**	**2019**
Risk-free interest rate	–0.18%	–0.36%	–0.31%
Stock price volatility	+32.05%	+33.62%	+31.02%
STOXX Europe 600 Chemicals volatility	+15.65%	+16.09%	+14.57%
Correlation between stock price and STOXX Europe 600 Chemicals	0.73	0.71	0.64

Stock participation program (Covestment)

Under the Covestment program, employees of numerous Group companies could invest a fixed amount of their compensation in Covestro shares in fiscal 2019, which Covestro supplemented through an employer subsidy. The discount granted for fiscal 2019 was generally 30% of the subscription amount and is set every year. The total individual investment amount was capped at €3,600, depending on the Group company and the employee's position. Overall, around 97% of Covestro's global workforce was authorized to participate in Covestment.

Around 381,000 shares were purchased by employees under the Covestment program in fiscal 2019. Depending on the Group company, the purchased shares are subject to a vesting period of at least one year from the subscription date.

* Calculated as the average price for the last 30 days of trading in the relevant performance period

22. Financing and Financial Liabilities

The bonds issued through the Debt Issuance Program launched in the first quarter of 2016 are a key form of external financing. Bonds with a total nominal volume of €1,500 million were placed, of which €500 million was repaid as scheduled in March 2018. As of the reporting date, Covestro still has two fixed-rate tranches with terms until October 2021 (a coupon of 1.00% and a volume of €500 million) and September 2024 (a coupon of 1.75% and a volume of €500 million) in its portfolio. Both bonds received a Baa1 rating from Moody's Investors Service, London (United Kingdom).

Additional liquidity is provided by a multicurrency revolving credit facility totaling €1,500 million with a term until September 2022. No loans had been drawn against this syndicated credit facility as of December 31, 2019. The Group had total credit facilities of €1,510 million (previous year: €1,524 million) at its disposal. Of this amount, €10 million (previous year: €24 million) was drawn down while €1,500 million (previous year: €1,500 million) remained unused.

Financial liabilities were comprised as follows:

Financial liabilities

	Dec. 31, 2018		Dec. 31, 2019	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Bonds	996	–	997	–
Liabilities to banks	24	18	10	10
Lease liabilities	193	29	735	131
Liabilities from derivatives	12	12	10	10
Total	**1,225**	**59**	**1,752**	**151**

Maturities of financial liabilities

	Dec. 31, 2018
Maturity	€ million
2019	59
2020	32
2021	529
2022	33
2023	27
2024 or later	545
Total	**1,225**

	Dec. 31, 2019
Maturity	€ million
2020	151
2021	608
2022	96
2023	83
2024	545
2025 or later	269
Total	**1,752**

The financial liabilities of the Covestro Group are mainly unsecured.

Lease liabilities

The increase in lease liabilities in fiscal 2019 was attributable to the initial application of IFRS 16, see note 2.1 „Financial reporting standards applied for the first time in the reporting period." Lease payments of €876 million (previous year: €250 million) are to be made to the respective lessors in future years; of this amount, the interest component amounts to €141 million (previous year: €57 million). The lease liabilities mature as follows:

Lease liabilities

	Dec. 31, 2018				Dec. 31, 2019		
	Lease payments	Interest component	Lease liabilities		Lease payments	Interest component	Lease liabilities
Maturity	€ million	€ million	€ million	Maturity	€ million	€ million	€ million
2019	41	12	29	2020	155	24	131
2020	41	10	31	2021	131	22	109
2021	39	9	30	2022	112	16	96
2022	38	6	32	2023	96	13	83
2023	31	5	26	2024	56	9	47
2024 or later	60	15	45	2025 or later	326	57	269
Total	**250**	**57**	**193**	**Total**	**876**	**141**	**735**

Further information on the accounting for liabilities from derivatives is given in note 24.2 "Financial risk management and information on derivatives."

23. Other Liabilities

Other liabilities were comprised as follows:

Other liabilities

	Dec. 31, 2018		Dec. 31, 2019	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax liabilities	96	96	83	83
Deferred income	1	1	1	1
Grants and subsidies received from governments	13	7	11	4
Liabilities to employees	26	24	34	30
Liabilities for social expenses	17	17	11	11
Accrued interest on liabilities	5	5	5	5
Contract liabilities	28	28	18	18
Refund liabilities	33	32	30	30
Miscellaneous liabilities	21	12	30	9
Total	**240**	**222**	**223**	**191**

The miscellaneous liabilities included €3 million (previous year: €4 million) in liabilities from derivatives.

Further information on contract liabilities is given in note 6 "Sales."

24. Financial Instruments

24.1 Financial instruments by category

The following tables show the carrying amounts and fair values of financial assets and liabilities based on IFRS 9:

Carrying amounts of financial instruments and their fair values as of December 31, 2019

		Measurement according to IFRS 9				
	Carrying amount	Carried at amortized cost	Fair value through other comprehen-sive income	Fair value recognized in profit or loss	Measurement according to IFRS 16	Fair value
	€ million	€ million	€ million	€ million		€ million
Financial assets						
Trade accounts receivable	1,561	1,561				1,561
Other financial assets	59					
Loans	16	16				16
Derivatives that do not qualify for hedge accounting	22			22		22
Receivables under lease agreements	8				8	19
Other investments	13		13			13
Other receivables[1]	41	32		9		41
Cash and cash equivalents	748	748				748
Financial liabilities						
Financial debt	1,752					
Bonds	997	997				1,045
Lease liabilities[2]	735				735	
Liabilities to banks	10	10				10
Derivatives that do not qualify for hedge accounting	10			10		10
Trade accounts payable	1,507	1,507				1,507
Other liabilities[3]	64					
Derivatives that do not qualify for hedge accounting	3			3		3
Refund liabilities[4]	30	30				30
Miscellaneous other liabilities	31	31				31

[1] The other receivables recognized in the consolidated statement of financial position also include nonfinancial assets totaling €370 million.
[2] In accordance with IFRS 7.29 (d), disclosures on the fair value of lease liabilities are no longer required from fiscal 2019 onward.
[3] The other liabilities recognized in the consolidated statement of financial position also include nonfinancial liabilities totaling €159 million.
[4] The refund liabilities recognized on the balance sheet in accordance with IFRS 15 will be presented as financial liabilities beginning in fiscal 2019. Reference information was adjusted accordingly.

Carrying amounts of financial instruments and their fair values as of December 31, 2018

		Measurement according to IFRS 9				
	Carrying amount	Carried at amortized cost	Fair value through other comprehen-sive income	Fair value recognized in profit or loss	Measurement according to IAS 17	Fair value
	€ million	€ million	€ million	€ million		€ million
Financial assets						
Trade accounts receivable	1,786	1,786				1,786
Other financial assets	48					
Loans	12	12				12
Derivatives that do not qualify for hedge accounting	20			20		20
Receivables under lease agreements	9				9	16
Other investments	7		7			7
Other receivables[1]	35	35		–		35
Cash and cash equivalents	865	865				865
Financial liabilities						
Financial debt	1,225					
Bonds	996	996				1,030
Lease liabilities	193				193	231
Liabilities to banks	24	24				24
Derivatives that do not qualify for hedge accounting	12			12		12
Trade accounts payable	1,637	1,637				1,637
Other liabilities[2]	59					
Derivatives that do not qualify for hedge accounting	4			4		4
Refund liabilities[3]	33	33				33
Miscellaneous other liabilities	22	22				22

1 The other receivables recognized in the consolidated statement of financial position also include nonfinancial assets totaling €343 million.
2 The other liabilities recognized in the consolidated statement of financial position also include nonfinancial liabilities totaling €181 million.
3 The refund liabilities recognized on the balance sheet in accordance with IFRS 15 will be presented as financial liabilities beginning in fiscal 2019. Reference information was adjusted accordingly.

The fair values of financial instruments are determined and reported in accordance with IFRS 13 (Fair Value Measurement) on the basis of the fair value hierarchy described below:

Level 1 covers fair values determined on the basis of unadjusted prices which exist in active markets.

Level 2 comprises fair values determined on the basis of parameters which are observable in an active market.

Level 3 applies to fair values determined using parameters whose input factors are not based on observable market data.

The following table shows the assignment of the financial instruments to the three-level fair value hierarchy:

Fair value hierarchy of financial instruments

	Fair value Dec. 31, 2018	Level 1	Level 2	Level 3	Fair value Dec. 31, 2019	Level 1	Level 2	Level 3
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets carried at fair value								
Other investments	7	2		5	13	5		8
Derivatives that do not qualify for hedge accounting	20		12	8	22		15	7
Other receivables					9			9
Financial assets not carried at fair value								
Receivables under lease agreements	16			16	19			19
Financial liabilities carried at fair value								
Derivatives that do not qualify for hedge accounting	16		12	4	13		10	3
Financial liabilities not carried at fair value								
Bonds	1,030	1,030			1,045	1,045		
Lease liabilities[1]	231		231					
Liabilities to banks	24		24		10		10	

[1] In accordance with IFRS 7.29 (d), disclosures on the fair value of lease liabilities are no longer required from fiscal 2019 onward.

Reallocation between the different levels of the fair value hierarchy takes place at the end of the reporting period in which the change occurred. During the fiscal year, no transfers were made between the levels of the fair value hierarchy.

Because of the generally short maturities of cash and cash equivalents, loans, trade accounts receivable and payable, and other receivables and liabilities, their carrying amounts do not significantly differ from the fair values.

The fair value of the bonds issued by Covestro AG is based on quoted, unadjusted prices in active markets and therefore assigned to Level 1 of the fair value hierarchy. The fair value of some of the other investments is also based on quoted prices in active markets (Level 1).

The fair values stated for noncurrent financial assets and liabilities are the present values of the respective future cash inflows or outflows. These are determined by discounting the cash flows at a reporting-date interest rate that takes into account the term of the assets or liabilities and the creditworthiness of the counterparty. For this reason, these values are assigned to Level 2 of the fair value hierarchy.

The fair values of derivatives for which no publicly quoted market prices exist are determined using valuation techniques based on observable market data as of the reporting date (Level 2). Credit value adjustments and debt value adjustments are determined to allow for both the contracting party's credit risk and Covestro's own credit risk. The currency forward contracts are measured individually at their forward rates or forward prices as of the reporting date. These depend on spot rates or prices including time spreads.

Fair values measured using unobservable inputs are categorized within Level 3 of the fair value hierarchy. The fair values of noncurrent leasing receivables, reported for information purposes, are calculated on the basis of interest curves observable in the market. Additionally, a discount for cash flows that are very far in the future was applied as an unobservable factor.

Other investments comprising exclusively equity instruments are accounted for at fair value directly in other comprehensive income because they are held for the long term for strategic reasons. The fair value of some of the other investments is based on quoted prices in active markets (Level 1). Where there are no quoted, unadjusted prices in an active market for identical or similar instruments, and there is no suitable valuation method where all major input factors are based on observable market data, the fair value of the other investments is determined using a market price-oriented valuation method where the main input factors are not based on observable market data (Level 3). The valuation of certain other investments is based on available performance indicators as well as on market valuation multiplies. The estimated fair value of the equity instruments categorized within Level 3 would rise (fall) if the multiple applied were to be greater (smaller).

Further, the fair values of embedded derivatives are determined on the basis of unobservable input factors (Level 3). They are separated from their respective host contracts, which are purchase agreements relating to the operational business. The embedded derivatives cause the cash flows from the contracts to vary with fluctuations in exchange rates or regional and industry-specific price indices, for example. The internal measurement of embedded derivatives is mainly performed using the discounted cash flow method, which is based on unobservable inputs. These include prices or price indices derived from market data. The estimated fair value of the embedded derivative would rise (fall) if the expected payment flows were to be higher (lower) as a result of fluctuations in exchange rates or prices.

Other receivables include a contingent purchase price receivable from divestments. The fair value of the receivable is measured as the present value of the future cash inflows. The basis is the expected EBITDA of the business unit sold for 2021. The cash flows are discounted at the current interest rate for the appropriate term on the reporting date and reflecting the creditworthiness of the buyer. The contingent purchase price receivable is assigned to Level 3 of the fair value hierarchy. The estimated fair value would rise (fall) if the expected cash inflows were to be higher (lower) or if the risk-adjusted discount rate were to be lower (higher).

The table below shows the reconciliation of Level 3 financial instruments:

Changes in the net amount of financial assets and liabilities recognized at fair value based on unobservable inputs

	2018	2019
	€ million	€ million
Net carrying amounts, Jan. 1	**7**	**9**
Gains (losses) recognized in profit or loss	1	–
of which related to assets/liabilities recognized in the statement of financial position	1	–
Gains (losses) recognized outside profit or loss	1	–
Additions of assets (liabilities)	–	12
Settlements of (assets) liabilities	–	–
Reclassifications	–	–
Net carrying amounts, Dec. 31	**9**	**21**

Gains and losses from Level 3 financial instruments recognized in profit or loss result primarily from embedded derivatives and are reported in other operating expenses or income.

Other financial investments amount to €13 million, of which €4 million is attributable to Hi-Bis GmbH, Bitterfeld-Wolfen, and €3 million to the interest in Hydrogenious LOHC Technologies GmbH, Erlangen, acquired in fiscal year. In fiscal 2019, the Covestro Group received dividends of €2 million (previous year: €1 million) from other financial investments, all of which was attributable to Hi-Bis GmbH.

The following table shows income, expenses, gains and losses from financial instruments assigned to the measurement categories in accordance with IFRS 9:

Net result by measurement category in accordance with IFRS 9

	2018	2019
	€ million	€ million
Financial assets at amortized cost	46	(1)
of which net interest	6	4
Financial instruments measured at fair value through other comprehensive income	1	2
of which net interest	–	–
Financial instruments measured at fair value through profit or loss	(36)	–
of which net interest	(19)	(4)
Liabilities carried at amortized cost	(56)	(45)
of which net interest	(31)	(46)

24.2 Financial risk management and information on derivatives

Capital management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Moody's Investors Service, London (United Kingdom), currently assigns Covestro AG an investment-grade rating of Baa1 with a stable outlook. Covestro uses the debt ratios published by prominent rating agencies in managing its capital and pursues a conservative debt policy along with a balanced financing portfolio. This is based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

Credit risk

Credit risk is the risk of a loss for the Covestro Group when a counterparty is unable to meet its payment obligations arising from a financial instrument as contractually stipulated. The payment obligations to the Covestro Group primarily comprise trade accounts receivable, debt instruments, other financial assets and contract assets.

The carrying amount of the financial assets and the contract assets represents the maximum credit risk exposure.

The impairment loss for financial assets and contract assets recognized during the year resulted almost exclusively from impairment losses on trade accounts receivable. The net impairment loss amounted to €0 million (previous year: €1 million) in the reporting year.

Trade accounts receivable and contract assets

The credit risk the Covestro Group is exposed to through its trade accounts receivable and contract assets depends largely on the creditworthiness of the customer. In order to manage this risk, the Covestro Group's Credit Management implemented a process that uses internal and external data to assess each customer in terms of its creditworthiness. Quantitative and qualitative data are evaluated during the assessment process. The assessment reflects financial data, ratings, payment history and data on the customer's environment. The customer is allocated to one of five risk categories on the basis of the final assessment. The categories range from A to E, with risk category A representing the most creditworthy companies and risk category E the least.

Meaningful data is used to determine an expected loss rate for each risk category. Data such as default probabilities from rating agencies and credit insurance firms, historical impairment losses recognized by the Covestro Group and the empirical data from Credit Management are used to determine the expected loss rates. In addition, forward-looking information such as the country rating is also used in determining the expected loss rates. Every year the expected and actual losses are compared (backtesting).

The following table presents the gross carrying amounts and the expected losses for trade receivables and contract assets:

Expected credit loss by category as of December 31

	Cluster					
2019	**A**	**B**	**C**	**D**	**E**	**Total**
Expected loss rate (%)	0.03	0.14	0.51	1.79	9.37	
Gross amount (€ million)	350	543	547	155	16	1,611
Expected loss (€ million)	–	(1)	(3)	(3)	(1)	(8)
2018	**A**	**B**	**C**	**D**	**E**	**Total**
Expected loss rate (%)	0.03	0.14	0.51	1.79	9.37	
Gross amount (€ million)	421	567	637	206	15	1,846
Expected loss (€ million)	–	(1)	(3)	(4)	(1)	(9)

The accumulated impairment losses amounted to €28 million (previous year: €33 million) for those customers that the Covestro Group considers credit impaired on the basis of this assessment. The corresponding gross carrying amount amounted to €29 million (previous year: €35 million. Indicators that trade accounts receivable and contract assets are at risk of credit impairment include significant financial difficulties of the customer and breach of contract such as overdue payments. Determining that a customer is credit impaired does not occur automatically when payments are overdue for more than 90 days, but is instead always based on the individual assessment conducted by Credit Management.

Total impairment losses for trade accounts receivable and contract assets changed as follows:

Reconciliation expected credit loss

	2018	2019
	€ million	€ million
Valuation allowances, Jan. 1	**(51)**	**(42)**
Net remeasurement impairment loss	(1)	–
Write offs	10	6
Foreign exchange differences	–	–
Valuation allowance, Dec. 31	**(42)**	**(36)**

The Covestro Group limits the credit risk exposure from trade accounts receivable by stipulating the shortest payment terms possible. In addition, the Covestro Group has a widely diversified customer portfolio. In order to avoid concentration of risk, customer limits are set, regularly monitored and exceeded only in agreement with Credit Management.

Receivables of €27 million (previous year: €44 million) are secured mainly by letters of credit.

Debt instruments

The Covestro Group pursues a conservative investment policy based on a strategy of maintaining liquidity and safeguarding value. Consequently, the investments are limited to counterparties with investment grade ratings, simple debt instruments and short-term investment horizons. Credit risks, particularly concentration of risk with individual counterparties, are managed by means of a Group-wide limit system in conjunction with ongoing monitoring.

The general approach for calculating and recording impairment losses in accordance with IFRS 9 applies to all debt instruments, loan commitments and financial guarantees recognized at amortized cost or at their fair values directly in equity. Covestro uses a general, three-stage approach for measuring the risk provision for expected credit losses as follows:

- Stage 1: The risk provision is calculated as the 12-month expected credit loss, whereby the default probability is derived from historical data published by prominent rating agencies. The Covestro Group assumes that investment grade ratings imply a low level of credit risk.
- Stage 2: The amount of the risk provision is the expected credit loss over the lifetime of the debt instrument if the credit risk has increased significantly since its initial recognition. Changes in credit risk are assessed using the actual payment history and external information. Whenever available, Covestro uses credit default swap prices and other forward-looking information such as ratings outlooks in addition to external ratings.
- Stage 3: If Covestro determines that the collectability of a debt instrument has deteriorated, it is reclassified to stage 3. This is the case, for instance, when a counterparty has obtained insolvency status; when there is sufficient information available to show that the counterparty has applied for insolvency proceedings; or when debt instruments are more than 90 days overdue.

No reclassification between the stages of the general impairment approach took place either in the reporting period or in the reference period. The Covestro Group holds no collateral to secure its debt instruments.

Because of the low credit risk profile, the Covestro Group is not exposed to significant credit risk from debt instruments. For fiscal 2019 and for the previous year, the risk provision calculated using the general approach is immaterial both overall and for the individual stages, thus the respective gross carrying amount corresponds to the net carrying amount of the debt instrument.

Currency risks

Currency opportunities and risks for the Covestro Group result from changes in exchange rates and the related changes in the value of financial instruments (including receivables and payables) and of anticipated payment receipts and disbursements in foreign currencies. Material receivables and payables in liquid currencies from operating and financial activities are generally fully hedged through forward exchange contracts. A value-at-risk approach is used to manage foreign currency exposures arising from planned receivables and liabilities. As in the previous year, the planned foreign currency exposure was not hedged. They will be rehedged using forward contracts if the foreign currency risk increases significantly. The extent of the currency risk is represented below by a sensitivity analysis.

The currency risk shown in the sensitivity analysis results from the following:

- The unsecured portion of receivables and payables in nonfunctional currencies
- Unsecured bank deposits and liabilities to banks in nonfunctional currencies
- Currency risks from embedded derivatives

Sensitivities were determined based on a hypothetical scenario in which the euro depreciates by 10% against all other currencies compared with the year-end exchange rates. Under this scenario, the estimated hypothetical gains recognized in profit or loss as of December 31, 2019, would have totaled €7.7 million (previous year: gains of €18.1 million). The table below shows the distribution of these effects among the individual currencies:

Sensitivity by currency

	2018		2019
Currency	€ million	Currency	€ million
CNY	14.0	CNY	3.9
USD	3.3	USD	2.7
MXN	0.6	RUB	0.3
Other	0.2	Other	0.8
Total	**18.1**	**Total**	**7.7**

Liquidity risk

Liquidity risk is the risk of not being able to meet existing or future payment obligations. The liquidity status of all material Group companies is continuously planned and monitored. Liquidity is secured by cash pooling agreements as well as internal and external financing. A syndicated revolving credit facility offers additional financial flexibility.

The liquidity risks to which the Covestro Group was exposed from its financial instruments can be divided into obligations for interest and repayment installments on financial liabilities and payment obligations arising from derivatives. The following tables show the maturity structure of the nondiscounted contractually agreed payments arising from these line items:

Maturity analysis of financial liabilities and derivative financial instruments

	Carrying amount	Contractual cash flows					
	Dec. 31, 2019	2020	2021	2022	2023	2024	after 2024
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	997	14	514	9	9	509	–
Liabilities to banks	10	10	–	–	–	–	–
Lease liabilities	735	155	131	112	96	56	326
Trade accounts payable	1,507	1,507	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	5	5	–	–	–	–	–
Refund liabilities[1]	30	30	–	–	–	–	–
Remaining liabilities	26	10	2	1	1	–	12
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	13	11	1	1	–	–	–
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	22	17	2	2	1	–	–
Loan commitments	–	208	–	–	–	–	–

	Carrying amount	Contractual cash flows					
	Dec. 31, 2018	2019	2020	2021	2022	2023	after 2023
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	996	14	14	514	9	9	509
Liabilities to banks	24	18	1	1	1	1	2
Lease liabilities	193	41	41	39	38	31	60
Trade accounts payable	1,637	1,637	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	5	5	–	–	–	–	–
Refund liabilities[1]	33	32	1	–	–	–	–
Remaining liabilities	17	11	–	–	–	–	6
Liabilities from derivatives		–	–	–	–	–	–
Derivatives that do not qualify for hedge accounting	16	13	1	1	1	–	–
Receivables from derivatives		–	–	–	–	–	–
Derivatives that do not qualify for hedge accounting	20	14	2	2	1	1	–
Loan commitments	–	208	–	–	–	–	–

[1] The refund liabilities recognized on the balance sheet in accordance with IFRS 15 will be presented as financial liabilities beginning in fiscal 2019. Reference information was adjusted accordingly.

In addition to the primary financial liabilities and derivative financial instruments, there was an obligation under certain conditions to make a loan of €208 million (previous year: €208 million) to the effective initial fund of Bayer-Pensionskasse VVaG, which may result in payments by Covestro AG in subsequent years. This is reflected in the loan commitments shown in the table above. Further information is given in note 25 "Contingent Liabilities and Other Financial Commitments."

In this analysis, foreign currencies were translated at the closing rates. Derivative financial instruments are reported as net amounts.

Interest rate risks

Interest rate opportunities and risks for the Covestro Group result from changes in capital market interest rates, which could lead to changes in the fair value of fixed-rate financial instruments and in interest payments in the case of floating-rate instruments. To minimize adverse effects, interest rate risk is managed centrally based on an optimized debt maturity structure.

A sensitivity analysis based on our net floating-rate receivables and payables position at year end 2019, taking into account the interest rates relevant for our receivables and payables in all principal currencies, produced the following result: A hypothetical increase in the interest rates by 100 basis points or one percentage point would (assuming currency exchange rates remain constant) not impact interest expenses or interest income, since, as in the previous year, there are no floating-rate receivables and payables at year end.

Raw material price risks

The Covestro Group requires significant quantities of energy and petrochemical feedstocks for its production processes. Procurement prices for energy and raw materials may fluctuate significantly. Important raw materials are procured on the basis of long-term supply agreements and an active supplier management to minimize substantial price fluctuations. In steam and electricity generation, we aim for market-based price indexing, a diversification of fuels and a mix of external procurement and captive production to minimize the price fluctuation risk for energies. During the past fiscal year, derivative financial instruments were not used to hedge raw material price risks.

Derivatives

As of the reporting date, the nominal volume of the forward exchange contracts used to hedge currency risk amounted to €2,015 million (previous year: €1,608 million). Other market risks are not hedged as of the reporting date.

Covestro has entered into master netting agreements or similar agreements for derivative financial instruments. These take effect in particular in the event of the insolvency of one of the contractual partners involved. The derivative financial instruments covered by netting agreements from the perspective of the Covestro Group are presented in the table below:

Disclosures for netting of financial assets and liabilities as of December 31

	Gross amounts of financial assets / liabilities	Net amounts of financial assets / liabilities presented in the balance sheet	Balance sheet amounts eligible for netting covered by netting agreements	Net amounts after possible netting
	€ million	€ million	€ million	€ million
2019				
Receivables from derivatives	15	15	3	12
Liabilities from derivatives	10	10	3	7
2018				
Receivables from derivatives	12	12	5	7
Liabilities from derivatives	12	12	5	7

25. Contingent Liabilities and Other Financial Commitments

Contingent liabilities

The following table presents warranty contracts as well as other contingent liabilities existing as of the reporting date:

Contingent liabilities

	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Warranties	1	2
Other contingent liabilities	3	3
Total	**4**	**5**

Other financial commitments

The other financial commitments were as follows:

Other financial commitments

	Dec. 31, 2018	Dec. 31, 2019
	€ million	€ million
Operating leases[1]	450	–
Orders already placed for started or planned investment projects	248	340
Loan commitments to Bayer-Pensionskasse VVaG	208	208
Total	**906**	**548**

[1] Application of IFRS 16 since January 1, 2019, has eliminated the need to differentiate between operating leases and finance leases, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”

In cases where pension obligations allocable to the Covestro Group are funded through pension institutions used jointly with other companies (especially Bayer), it is generally contractually ensured that Covestro participates in funding measures that serve to guarantee adequate funding status and/or adequate solvency capital of these pension institutions for the long term. To this end, Covestro AG agreed to grant Bayer-Pensionskasse VVaG an interest-bearing loan of up to €208 million for the effective initial fund as required.

26. Legal Risks

As a company with international operations, the Covestro Group is exposed to numerous legal risks, particularly in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control. The outcome of any current or future proceedings cannot be predicted. It is therefore possible that legal judgments or regulatory decisions or future settlements could give rise to expenses that are not covered, or not fully covered, by insurers’ compensation payments and could significantly affect the earnings of the Covestro Group.

Legal proceedings currently considered to involve material risks are outlined below. The legal proceedings referred to do not necessarily represent an exhaustive list:

Carbon monoxide pipeline from Dormagen to Krefeld-Uerdingen

The carbon monoxide pipeline is intended to connect the chemical production sites at Dormagen and Krefeld-Uerdingen and complement the network already existing between Dormagen and Leverkusen. The aim is to ensure a safe and reliable supply of carbon monoxide to and across all sites. Although the pipeline was almost completed by the end of 2009, it cannot currently be put into operation because of ongoing court proceedings. Following confirmation by the Düsseldorf Administrative Court in 2011 that there were no grounds to challenge the material aspects of the planning permission decision, in particular the safety of the materials used and the legal conformity of the relevant pipeline act (Rohrleitungsgesetz), the plaintiffs and the regional government against which legal proceedings had been instituted lodged appeals before the Higher Administrative Court in Münster. In 2014, the Münster Higher Administrative Court raised no objections in principle to the safety and routing of the pipeline, but questioned the constitutionality of the pipeline act which forms the legal basis for the project. On December 21, 2016, the German Federal Constitutional Court dismissed the corresponding constitutionality question referred to it by Münster Higher Administrative Court as inadmissible and confirmed the legal opinion of the Covestro Group. Münster Higher Administrative Court must now return to considering the facts of the appeal.

Civil class action lawsuits (United States) over diisocyanates

On July 9, 2018, Covestro LLC, Pittsburgh (United States) – as one of numerous other defendants – was served the first of now 12 class action lawsuits initiated by various U.S. Diphenylmethane Diisocyanate (MDI) and Toluene Diisocyanate (TDI) customers. The plaintiffs allege that the defendants have violated various provisions of the Sherman Antitrust Act since January 1, 2015, by acting in coordination to limit production capacities of MDI and TDI and, at the same time, raising prices for these products in the market. On October 3, 2018, the U.S. Judicial Panel on Multidistrict Litigation ruled that all class action lawsuits in pretrial proceedings would be centralized in the District Court for the Western District of Pennsylvania. Based in essence on the same assertions and the violations of federal consumer protection and antitrust laws allegedly resulting from them, the attorney general of the state of Mississippi filed a separate civil complaint against Covestro LLC and numerous other defendants on behalf of the state and its citizens in September 2019. Covestro currently considers these claims without merit and will therefore use all legal means to defend itself against these allegations – also in light of the official conclusion in November 2018 of the six-month investigation by the U.S. Department of Justice into possible anticompetitive practices in relation to MDI.

The following legal proceedings could be concluded in the 2019 fiscal year:

Duties to inform for the use of diisocyanates (United States)

On September 14, 2016, Covestro LLC, Pittsburgh (United States), – amongst three other defendants – was served with a lawsuit filed by a law firm for a plaintiff in California Federal Court. This has since been transferred to a federal court in Washington D.C. (United States) by agreement of the parties involved. This action seeks financial damages due to fines allegedly enforceable and due by the defendants to the U.S. Environmental Protection Agency because they supposedly withheld information about the health risks associated with the manufacture and use of TDI, MDI and Polymeric Diphenylmethane Diisocyanate (PMDI). The U.S. government declined to intervene and proceed with the claims itself despite sufficient opportunity to do so under the applicable laws. It is therefore now up to the law firm to proceed with the claims asserted on behalf of the government. Violations of the Toxic Substances Control Act (TSCA) and False Claims Act (FCA) are asserted. The trial court dismissed the action on October 23, 2017. The plaintiff then filed a timely appeal, which the court of first instance dismissed on June 22, 2018. The plaintiff thereupon appealed this decision; following oral proceedings argued on May 13, 2019, the appeal was rejected in its entirety by the competent court of appeals. The deadline for the plaintiff to file a petition with the United States Supreme Court expired on October 3, 2019, with no action being taken. The dismissal of the claim is therefore final, and the legal dispute is ended.

Other Information

27. Notes to the Statement of Cash Flows

27.1 Cash flows from operating activities

The net cash of €1,383 million (previous year: €2,376 million) provided by operating activities comprises the cash surplus from operating activities and reflects the changes in working capital and other noncash transactions.

The €993 million (–41.8%) year-over-year decrease in net cash provided by operating activities was chiefly the result of lower EBIT by €1,728 million. This decrease was partially offset by lower income tax payments (€278 million) compared to the previous year and inflows from working capital amounting to €77 million (previous year: outflows of €231 million).

27.2 Cash flows from investing activities

Net cash outflow for investing activities in fiscal 2019 amounted to €838 million (previous year: €346 million).

These mainly included cash outflows for additions to property, plant, equipment and intangible assets of €910 million (previous year: €707 million). The sale of the European system house business to H.I.G. Capital, Miami (United States), had an opposite effect which generated proceeds from divestitures of €51 million.

27.3 Cash flows from financing activities

In fiscal 2019, there was a net cash outflow of €668 million (previous year: €2,402 million) for financing activities. Net loan repayments amounted to €147 million (previous year: €582 million). Short-term issuances and retirements of debt were netted.

In April 2019, dividends totaling €438 million were paid to Covestro AG stockholders.

The interest paid totaling €86 million (previous year: €74 million) reflected in cash flows from financing activities relates mainly to forward exchange contracts used to hedge foreign currency risks of €39 million (previous year: €43 million), lease liabilities of €33 million (previous year: €14 million), and bonds of €14 million (previous year: €14 million).

The cash flows from financing activities in the reporting year also include payments for leases recognized on the balance sheet for the first time upon initial application of IFRS 16, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”

Reconciliation of financial debt in 2019

			Changes cash flows not realized					
	Carrying amounts Dec. 31, 2018	Changes cash flows realized	Changes due to exchange rate movements	Changes in measurement	Acquisitions (IFRS 3)	Effects of IFRS 16	Other changes	Carrying amounts Dec. 31, 2019
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Bonds	996	–	–	1	–	–	–	997
Liabilities to banks	24	(8)	1	–	–	–	(7)	10
Lease liabilities	193	(139)	18	–	4	656	3	735
Financial debt[1]	**1,213**	**(147)**	**19**	**1**	**4**	**656**	**(4)**	**1,742**

[1] Not including forward exchange contracts used to hedge currency risks

28. Related Companies and Persons

28.1 Related companies

Related entities as defined in IAS 24 (Related Party Disclosures) are those legal entities that are able to exert at least significant influence on Covestro AG and its subsidiaries or over which Covestro AG or its subsidiaries exercise control or have at least a significant influence. They include nonconsolidated subsidiaries, joint ventures, associated companies and post-employment benefit plans.

Receivables from and Liabilities to Related Parties

	Dec. 31, 2018		Dec. 31, 2019	
	Receivables	Liabilities	Receivables	Liabilities
	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries and associates	4	9	–	5
Joint ventures	1	–	–	–
Associates	11	1	3	–

Sales and Purchases of Goods and Services to/from Related Parties

	2018		2019	
	Sales of goods and services	Purchases of goods and services	Sales of goods and services	Purchases of goods and services
	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries and associates	44	48	40	67
Joint ventures	4	–	–	–
Associates	24	688	11	569

The goods and services provided by associated companies mainly result from the ongoing operating business with PO JV, LP, Wilmington (United States). Covestro benefits from fixed long-term supply quotas/volumes of propylene oxide (PO) from this company's production. Further details on these business relationships are given in note 15 "Investments Accounted for Using the Equity Method."

Receivables from and payables to related parties mainly comprise leasing and financing matters, trade in goods and services and other transactions. No impairment losses were recorded on receivables from related parties either in the reporting period or in the reference period.

28.2 Related persons

Related persons as defined in IAS 24 are those natural persons who, on account of their function in the Covestro Group, are responsible for Covestro's global business operations. These persons include the corporate officers of Covestro AG, who are the members of the Board of Management and Supervisory Board.

Compensation of the corporate officers

Total compensation of €9,486 thousand (previous year: €15,790 thousand) was paid to the corporate officers in fiscal 2019, including the compensation of the Supervisory Board amounting to €1,747 thousand (previous year: €1,742 thousand).

This compensation is shown below:

Board Members Compensation According to IFRSs

	2018	2019
	€ thousand	€ thousand
Total short-term compensation	12,531	5,308
Termination benefits	674	–
Total stock-based compensation (long-term incentive)	1,151	2,827
Service cost for pension entitlements earned in the respective year	1,434	1,351
Aggregate compensation (IFRSs)	**15,790**	**9,486**

Aggregate compensation (German Commercial Code) amounted to €6,274 thousand and is stated in the "Compensation Report" of the combined management report. The fair value of the long-term stock-based compensation (Prisma) granted to the Board of Management in fiscal 2019 was €2,724 thousand (previous year: €3,560 thousand).

Provisions of €5,103 thousand (previous year: €12,011 thousand) were recognized for the short-term variable cash compensation and long-term stock-based cash compensation for the members of the Board of Management serving during the 2019 reporting period. At the end of the year, the present value of the defined benefit pension obligations for the current members of the Board of Management was €9,818 thousand (previous year: €6,825 thousand). Provisions of €6,027 thousand were recognized for long-term stock-based cash compensation for former members of the Board of Management. The present value of the defined benefit pension obligations for former members of the Board of Management was €7,818 thousand (previous year: €6,856 thousand).

Since 2016, the members of the Board of Management have been entitled to participate in the Prisma long-term stock-based compensation program, as long as they are employed by the Covestro Group, and acquire for their own account and hold an individually defined number of Covestro shares as specified by the guidelines.

The compensation of the Supervisory Board is exclusively non-performance-related. In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Covestro Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation was €883 thousand (previous year: €925 thousand). Pension obligations for employee representatives on the Supervisory Board amounted to €3,346 thousand (previous year: €2,672 thousand).

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of December 31, 2019, or at any time during fiscal 2019 or the previous year.

29. Auditor's Fees

Since fiscal 2018 KPMG AG Wirtschaftsprüfungsgesellschaft, Düsseldorf, (KPMG AG) is the elected statutory auditor of Covestro AG and Covestro Group. The following fees were recognized as expenses for the services provided by KPMG AG:

Auditor's fees

	2018	2019
	€ million	€ million
Audit services	2.0	2.1
Other attestation services	0.2	0.2
Tax services	0.1	0.2
Other services	0.1	–
Total	**2.4**	**2.5**

The fees for audit services for fiscal 2019 mainly comprise those for the statutory audit of the consolidated financial statements of the Covestro Group, the review of the Covestro Group's interim report for the period ended June 30, 2019, and the audit of the financial statements of Covestro AG and its subsidiaries in Germany.

The fees for other attestation services in fiscal 2019 particularly contain the assurance of sustainability information and special audits concerning energy related topics. Tax services include mainly consultancy services for the preparation of tax reports and matters related to VAT.

30. Events after the End of the Reporting Period

Covestro successfully concluded the sale of its European polycarbonate sheets business to the Munich-based Serafin group on January 2, 2020. Due to impairment losses on the assets of the divested business in the third quarter of 2019 (see note 5.2 "Acquisitions and divestments"), the effect of the sale on earnings was immaterial.

Leverkusen, February 14, 2020
Covestro AG
The Board of Management

RESPONSIBILITY STATEMENT

To the best of our knowledge, and in accordance with the applicable reporting principles for financial reporting, the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Covestro Group, and the group management report, which has been combined with the management report of Covestro AG, includes a fair review of the development and performance of the business and the position of the Covestro Group and Covestro AG, together with a description of the principal opportunities and risks associated with the expected development of the Covestro Group and Covestro AG.

Leverkusen, February 14, 2020
Covestro AG
The Board of Management

Dr. Markus Steilemann (Chairman)	Sucheta Govil	Dr. Klaus Schäfer	Dr. Thomas Toepfer

INDEPENDENT AUDITOR’S REPORT

To Covestro AG, Leverkusen

Report on the Audit of the Consolidated Financial Statements and of the Combined Management Report

Opinions

We have audited the consolidated financial statements of Covestro AG, Leverkusen, and its subsidiaries (the Group) – which comprise the consolidated income statement and consolidated statement of comprehensive income for the financial year from 1 January 2019 to 31 December 2019, the consolidated balance sheet as at 31 December 2019, and the consolidated statement of cash flows and the consolidated statement of changes in equity for the financial year from 1 January 2019 to 31 December 2019 as well as the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the combined management report of Covestro AG for the financial year from 1 January 2019 to 31 December 2019 including the non-financial statement in accordance with Section 315b (1), 315c HGB [Handelsgesetzbuch: German Commercial Code]. In accordance with German legal requirements, we have not audited the content of those components of the combined management report specified in the "Other Information" section of our auditor's report.

The management report contains cross-references marked as unaudited and not required by law. In accordance with German legal requirements, we have not audited the content of these cross-references or the information to which they refer.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2019, and of its financial performance for the financial year from 1 January 2019 to 31 December 2019, and
- the accompanying combined management report as a whole provides an appropriate view of the Group’s position. In all material respects, this combined management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the combined management report does not cover the content of those components of the combined management report specified in the "Other Information" section of the auditor's report. In accordance with German legal requirements, we have not audited the content of those components of the combined management report specified in the "Other Information" section of our auditor's report. The combined management report contains cross-references marked as unaudited and not required by law. We have not audited the content of these cross-references or the information to which they refer.

Pursuant to Section 322 (3) sentence 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the combined management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the combined management report in accordance with Section 317 HGB and the EU Audit Regulation No. 537/2014 (referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISAs). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the combined management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January 2019 to 31 December 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

Recoverability of the carrying amount of goodwill and of assets with determinable useful lives

The accounting policies as well as the assumptions made are disclosed in the notes to the consolidated financial statements in note 3. Disclosure of the amount of goodwill is provided in the notes to the consolidated financial statements in note 13 with explanations with respect to the business development of the operating segments included in the combined management report in the chapter "Business Development by segment".

THE FINANCIAL STATEMENT RISK

In the consolidated financial statements of Covestro AG Goodwill, Other intangible assets, and Property, plant and equipment amount to EUR 5,7 billion in total. These items account for a significant portion of the Group's noncurrent assets and for 49% of the Group's total assets. Of these items, Goodwill amounts to EUR 264 million for the financial year 31 December 2019.

A central impairment test is carried out, when there is an indication of impairment for an asset. Goodwill is tested annually for impairment. To this end, the carrying amount of the individual Cash Generating Units (CGU) is compared with their recoverable amount. If the carrying amount exceeds the recoverable amount of the respecttive CGU, an impairment is recorded. Initially the impairment reduces the carrying amount of goodwill and then the carrying amount of the other assets of the CGU.

The goodwill impairment test for CGU is complex and is based on a number of judgmental assumptions. These include, among others, the expected business and earnings development of the operating segments for the upcoming years, the assumed long-term growth rates and the discount rate used.

Due to an increase in competition and decline in the economy, future business prospects in the Chemicals sector showed signs of deterioration. Nonetheless, as a result of the impairment test carried out by the company, no need for the recording of an impairment was identified.

There is the risk for the financial statements that required impairments were not identified. In addition, there is the risk that the disclosures in the notes associated herewith are not appropriate.

OUR AUDIT APPROACH

With the support of our valuation specialists, we have assessed the appropriateness of the significant assumptions as well as company's valuation model. This included a discussion of the expected development of the business and results as well as of the assumed underlying long-term growth rates with those responsible for the planning process. In addition, reconciliations were made with other internally available forecasts as well as with the financial planning prepared by the Executive Board and approved by the Supervisory Board. Furthermore, we also assessed the consistency of the assumptions with external market expectations, by utilizing economic reports from recognized industry institutes as well as analyst assessments.

Moreover, we assessed the Company's planning accuracy by comparing projections for previous financial years with the actual results realised and analysed deviations. We have compared the assumptions and parameters underlying the discount rate – in particular the risk-free rate, the market risk premium and the beta factor – with own assumptions and publicly available information.

To provide for the mathematical accuracy of the valuation model utilised, we recalculated the Company's calculations.

To reflect the existing uncertainty with respect to forecasts as well as the earlier valuation date for the impairment test, we have assessed reasonably possible changes of the discount rate, the expected earnings respectively the long-term growth rate on the recoverable amount (sensitivity analysis) by calculating alternative scenarios and comparing these with the Company's valuation results.

Finally, we assessed whether the disclosures in the notes with respect to the recoverability of the carrying amount of the goodwill are appropriate.

OUR OBSERVATIONS

The underlying valuation model used in the impairment test of goodwill is appropriate and consistent with the applicable accounting principles. The Group's assumptions and parameters underlying the valuation are within an acceptable bandwidth and are, on the whole, acceptable. The disclosures in the notes associated herewith are appropriate.

Other Information

Management and the Supervisory Board are responsible for the other information. The other information comprises:

- the Declaration on Corporate Governance included in the chapter "Declaration on Corporate Governance" of the combined management report, and
- information included in the combined management report that is marked as unaudited.

The other information also includes the remaining parts of the annual report.

The other information does not include the consolidated financial statements, the combined management report information audited for content and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the combined management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the combined management report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Combined Management Report

Management is responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, management is responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, management is responsible for the preparation of the combined management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a combined management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the combined management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the combined management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the combined management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the combined management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and supplementary compliance with the ISAs will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this combined management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the combined management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the combined management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems of the Group.
- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of the management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the combined management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the combined management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the combined management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by management in the combined management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as auditor by the annual general meeting on 12 April 2019. We were engaged by the Audit Committee of the Supervisory Board on 25 July 2019. We have been the group auditor of Covestro AG without interruption since financial year 2018.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Dr. Markus Zeimes.

Düsseldorf, 17 February 2020

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Dr. Zeimes	Geier
[German Public Auditor]	[German Public Auditor]

FURTHER INFORMATION

GLOSSARY

A

AktG/German Stock Corporation Act
Regulates the legal provisions pertaining to German stock corporations

ADR/American Depositary Receipt
A depositary receipt issued by U.S. banks that documents ownership of a certain number of deposited shares of a foreign company and is traded on U.S. stock markets as representation of the original shares

APAC
Comprises all countries in the Asia and Pacific region in which Covestro is active

C

Capital employed
Capital employed is the sum of noncurrent and current assets less non-interest-bearing liabilities such as trade accounts payable.

Carbon productivity
The value generated per carbon unit used (e.g. in the form of fossil raw materials such as coal, oil and natural gas). Measuring carbon productivity is intended to promote a sustainable and optimal use of carbon.

Circular economy
A regenerative economic system in which resource input, waste production, emissions and energy consumption are minimized based on long-lasting and closed material and energy cycles

Core volume growth
Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of precursors and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.

Corporate Social Responsibility
The responsibility companies assume for and the actions taken as a result of the effects of their activities on environmental and social well-being

Covestment
Stock participation program in which approximately 97% of all employees worldwide can acquire Covestro shares at a discount

D

DCGK/German Corporate Governance Code
A set of regulations compiled by the Government Commission on the German Corporate Governance Code in respect of responsible corporate governance, which contains recommendations and suggestions for the management and oversight of listed corporations in Germany

DRS/German Accounting Standards
Pronouncements of the German Accounting Standards Committee e. V., which substantiate the HGB requirements in reference to the application of the Group accounting principles

Due diligence
Investigation and analysis of a company, especially in respect of its economic, legal, tax and financial position

E

Earnings per share
Net income divided by the weighted average number of outstanding shares in the reporting period

EBIT/earnings before interest and taxes
Income after income taxes plus financial result and income tax expense

EBITDA/earnings before interest, taxes, depreciation and amortization
EBIT plus depreciation and amortization of property, plant, equipment, and intangible assets

EHS/environment, health and safety
Environment, health and safety

EMLA
Comprises all countries in Europe, the Middle East, Africa and Latin America (excluding Mexico) in which Covestro is active

EURO STOXX 50
A European stock index that tracks the performance of the 50 most important and most actively traded companies in the eurozone

F

FOCF/free operating cash flow
Operating cash flows (pursuant to IAS 7) less cash outflows for additions to property, plant, equipment and intangible assets

G

GHG Protocol/Greenhouse Gas Protocol
International accounting system for greenhouse gas emissions developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD)

GPS/Global Product Strategy
Initiative of the International Council of Chemical Associations (ICCA) with the aim of anchoring uniform global standards for product safety in the chemical industry

GRI / Global Reporting Initiative
Guidelines for the preparation of sustainability reports by companies, governments and non-governmental organizations (NGOs)

H

HDI/hexamethylediisocyanate
A chemical compound from the class of aliphatic isocyanates, primarily used in polyurethane coating systems

HGB/German Commercial Code
Comprises much of the German accounting legislation

HSEQ/health, safety, environment, quality
Health, safety, environment and quality

I

IAS/Accounting Standards
International accounting standards as endorsed by the European Union

IASB/International Accounting Standards Board
The International Accounting Standards Board is an independent, private-sector body that develops and approves the International Financial Reporting Standards (IFRSs).

ICS/internal control system
Internal control system to ensure compliance with directives by means of technical and organizational rules

IDW/Institut der Wirtschaftsprüfer in Deutschland e. V.
A professional association of German Public Auditors and German Public Audit Firms that represents the interests of its members and supports their work

IFRSs/International Financial Reporting Standards
International accounting standards as endorsed by the European Union

IPDI/isophorone diisocyanate
A chemical compound from the class of aliphatic isocyanates, primarily used in polyurethane coating systems

L

LoPC/loss of primary containment
Leaks of chemicals in amounts above defined thresholds leaking from their primary containers, such as pipelines, pumps, tanks and drums

LTRIR/lost time recordable incident rate
Rate of the reportable workplace accidents to days of absence

M

MDI/diphenylmethane diisocyanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams

N

NAFTA
Region comprising the United States, Canada and Mexico in which Covestro is active

Net financial debt
Interest-bearing liabilites (excluding pension obligations) less liquid assets

Net income
Income after income taxes that is attributable to the stockholders

NOPAT/net operating profit after taxes
Operating result (EBIT) after imputed income taxes

P

PMDI/Polymeric diphenylmethane diisocyanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams

PO/propylene oxide
A chemical compound from the class of epoxies used in the production of polyurethanes

Prisma
Prisma is a stock-based compensation program with a four-year performance period for senior executives and other managerial employees.

PSP/Profit Sharing Plan
Covestro PSP is the Group's short-term variable compensation system. It is based exclusively on the target attainment of the relevant Covestro performance indicators (core volume growth, FOCF, ROCE).

R

REACH Regulation
Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No. 1907/2006 which came into force in 2007 and harmonizes EU chemicals legislation

Responsible Care initiative
Initiative by the German Chemical Industry Association (VCI) aimed at continuously improving health, environmental protection and safety in its member states

RIR/recordable incident rate
Total number of workplace accidents per 200,000 working hours

ROCE/return on capital employed
Ratio of operating result after imputed income taxes to the capital employed

S

Stakeholders
Internal and external interest groups which are directly or indirectly impacted by the company's corporate activities and/or may be so in the future

STOXX Europe 600 Chemicals
A sector index provided by STOXX. The STOXX Europe 600 is comprised of 600 companies across Europe.

T

TDI/toluylene diisoycanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams and coating systems

TfS/Together for Sustainability
An initiative undertaken by various companies in the chemical industry to standardize supplier assessments globally in order to improve sustainability practices in the supply chain

U

UN Global Compact
The world's largest responsible corporate governance initiative. The member companies undertake to implement ten universal principles and regularly document their progress.

V

VC/value contribution
The difference between the operating result after imputed income taxes and the cost of capital. A positive value contribution means that value has been created.

VCI/Verband der chemischen Industrie – German Chemical Industry Association
German chemical industry association

W

WACC/weighted average cost of capital
Weighted average cost of capital reflecting the expected return on the company's equity and debt capital

World-scale plants
Covestro defines world-scale plants in terms of their permitted production capacity in kilotons per year:

- TDI plants from 300 kilotons per year
- MDI plants from 400 kilotons per year
- Polyether polyol plants from 300 kilotons per year
- Polycarbonate plants from 240 kilotons per year
- HDI plants from 40 kilotons per year

Segment and Quarterly Overview

Segment information 4th quarter[1]

	Polyurethanes		Polycarbonates		Coatings, Adhesives, Specialties		Others/consolidation		Covestro Group	
	4th quarter 2018	4th quarter 2019	4th quarter 2018	4th quarter 2019	4th quarter 2018	4th quarter 2019	4th quarter 2018	4th quarter 2019	4th quarter 2018	4th quarter 2019
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	1,597	1,336	924	814	534	533	217	181	3,272	2,864
Change in sales										
Volume	+2.5%	–0.2%	+4.2%	0.0%	+0.3%	+0.1%	+7.1%	–9.4%	+2.9%	–0.7%
Price	–17.6%	–16.9%	–2.3%	–13.5%	0.0%	–4.2%	+14.0%	–7.9%	–9.3%	–13.3%
Currency	+0.2%	+1.5%	+0.3%	+1.6%	+0.6%	+1.9%	+0.8%	+0.7%	+0.3%	+1.5%
Portfolio	0.0%	–0.7%	–3.8%	0.0%	0.0%	+2.0%	0.0%	0.0%	–1.0%	0.0%
Core volume growth[2]	**+2.4%**	**+3.6%**	**+1.6%**	**+3.5%**	**–2.2%**	**+6.2%**			**+1.7%**	**+3.8%**
Sales by region										
EMLA	678	546	301	270	240	224	168	139	1,387	1,179
NAFTA	474	394	200	160	129	129	45	36	848	719
APAC	445	396	423	384	165	180	4	6	1,037	966
EBITDA	**111**	**123**	**133**	**95**	**63**	**62**	**(14)**	**(2)**	**293**	**278**
EBIT	27	24	88	39	39	32	(14)	(2)	140	93
Depreciation, amortization, impairment losses and impairment loss reversals	84	99	45	56	24	30	–	–	153	185
Operating cash flows	393	282	235	204	107	170	(94)	(19)	641	637
Cash outflows for additions to property, plant, equipment and intangible assets	171	168	70	84	36	55	1	–	278	307
Free operating cash flow	**222**	**114**	**165**	**120**	**71**	**115**	**(95)**	**(19)**	**363**	**330**
Working capital[3]	1,018	860	769	562	500	485	75	63	2,362	1,970

[1] Reference information was not restated, see note 2.1 " Financial reporting standards applied for the first time in the reporting period."
[2] Reference values calculated based on the definition of the core business effective March 31, 2019
[3] Working capital includes inventories plus trade receivables less trade payables as of December 31 of the year concerned.

Segment information full year[1]

	Polyurethanes		Polycarbonates		Coatings, Adhesives, Specialties		Others/consolidation		Covestro Group	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	7,362	5,779	4,051	3,473	2,361	2,369	842	791	14,616	12,412
Change in sales										
Volume	+0.9%	+1.5%	+3.8%	+2.4%	+3.5%	–2.1%	+5.6%	–5.4%	+2.3%	+0.8%
Price	+1.9%	–24.7%	+9.7%	–16.5%	+0.6%	–1.1%	+18.1%	–1.9%	+4.5%	–17.3%
Currency	–3.1%	+1.8%	–3.4%	+2.0%	–2.6%	+2.3%	–1.3%	+1.2%	–3.0%	+1.9%
Portfolio	0.0%	–0.1%	–1.7%	–2.2%	0.0%	+1.2%	0.0%	0.0%	–0.4%	–0.5%
Core volume growth[2]	**+0.8%**	**+2.3%**	**+3.0%**	**+2.7%**	**+2.3%**	**–1.0%**			**+1.5%**	**+2.0%**
Sales by region										
EMLA	3,182	2,487	1,347	1,146	1,117	1,052	638	604	6,284	5,289
NAFTA	1,947	1,680	817	734	519	562	186	165	3,469	3,141
APAC	2,233	1,612	1,887	1,593	725	755	18	22	4,863	3,982
EBITDA	**1,763**	**648**	**1,036**	**536**	**464**	**469**	**(63)**	**(49)**	**3,200**	**1,604**
EBIT	1,412	250	861	300	371	352	(64)	(50)	2,580	852
Depreciation, amortization, impairment losses and impairment loss reversals	351	398	175	236	93	117	1	1	620	752
Operating cash flows	1,386	575	654	613	309	349	27	(154)	2,376	1,383
Cash outflows for additions to property, plant, equipment and intangible assets	414	543	186	209	106	158	1	–	707	910
Free operating cash flow	**972**	**32**	**468**	**404**	**203**	**191**	**26**	**(154)**	**1,669**	**473**
Working capital[3]	1,018	860	769	562	500	485	75	63	2,362	1,970

[1] Reference information was not restated, see note 2.1 "Financial reporting standards applied for the first time in the reporting period."
[2] Reference values calculated based on the definition of the core business effective March 31, 2019
[3] Working capital includes inventories plus trade receivables less trade payables as of December 31 of the year concerned.

Quarterly overview[1]

	1st quarter 2018	2nd quarter 2018	3rd quarter 2018	4th quarter 2018	1st quarter 2019	2nd quarter 2019	3rd quarter 2019	4th quarter 2019
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	3,779	3,863	3,702	3,272	3,175	3,211	3,162	2,864
Polyurethanes	1,950	1,966	1,849	1,597	1,476	1,489	1,478	1,336
Polycarbonates	1,033	1,056	1,038	924	860	898	901	814
Coatings, Adhesives, Specialties	592	629	606	534	627	621	588	533
Core volume growth[2]	**0.0%**	**+4.4%**	**+0.2%**	**+1.7%**	**–1.8%**	**+1.1%**	**+5.3%**	**+3.8%**
EBITDA	**1,063**	**985**	**859**	**293**	**442**	**459**	**425**	**278**
Polyurethanes	637	583	432	111	157	172	196	123
Polycarbonates	303	285	315	133	155	154	132	95
Coatings, Adhesives, Specialties	136	139	126	63	146	150	111	62
EBIT	907	826	707	140	264	274	221	93
Polyurethanes	547	492	346	27	57	72	97	24
Polycarbonates	260	241	272	88	105	99	57	39
Coatings, Adhesives, Specialties	113	116	103	39	118	120	82	32
Financial result	(28)	(27)	(25)	(24)	(23)	(23)	(19)	(26)
Income before income taxes	879	799	682	116	241	251	202	67
Income after taxes	646	606	497	80	180	190	149	38
Net income	644	604	496	79	179	189	147	37
Operating cash flows	452	517	766	641	120	164	462	637
Cash outflows for additions to property, plant, equipment and intangible assets	88	153	188	278	165	219	219	307
Free operating cash flow	**364**	**364**	**578**	**363**	**(45)**	**(55)**	**243**	**330**

[1] Reference information was not restated, see note 2.1 “Financial reporting standards applied for the first time in the reporting period.”
[2] Reference values calculated based on the definition of the core business effective March 31, 2019

Five-Year Summary

Five-Year summary

	2015	2016	2017	2018	2019
	€ million	€ million	€ million	€ million	€ million
Core volume growth[1]	**+2.7%**	**+7.5%**	**+3.4%**	**+1.5%**	**+2.0%**
Sales	12,082	11,904	14,138	14,616	12,412
Polyurethanes	6,088	5,927	7,660	7,362	5,779
Polycarbonates	3,172	3,298	3,737	4,051	3,473
Coatings, Adhesives, Specialties	2,093	2,040	2,053	2,361	2,369
EBITDA	**1,419**	**2,014**	**3,435**	**3,200**	**1,604**
EBIT	680	1,331	2,808	2,580	852
Financial result	(175)	(196)	(150)	(104)	(91)
Net income	343	795	2,009	1,823	552
Earnings per share (€)[2]	2.21	3.93	9.93	9.46	3.02
Operating cash flows	1,473	1,786	2,361	2,376	1,383
Cash outflows for additions to property, plant, equipment and intangible assets	509	419	518	707	910
Free operating cash flow	**964**	**1,367**	**1,843**	**1,669**	**473**
Working capital[3]	1,866	1,859	2,177	2,362	1,970
Net financial debt	2,211	1,499	283	348	989
ROCE	+9.5%	+14.2%	+33.4%	+29.5%	+8.4%
Employees (in FTE)	15,761	15,579	16,176	16,770	17,201

[1] Values calculated based on the definition of the core business effective March 31 of the respective subsequent year.
[2] Figures based on weighted average number of voting shares outstanding that were subject to relevant changes resulting from, among other factors, the IPO on October 6, 2015 and the share buyback program of November 21, 2017, through December 4, 2018.
[3] Working capital includes inventories plus trade receivables less trade payables as of December 31 of the year concerned.

FINANCIAL CALENDAR

ANNUAL STOCKHOLDERS' MEETING 2020	April 17, 2020
Q1 2020 INTERIM STATEMENT	April 29, 2020
HALF-YEAR FINANCIAL REPORT 2020	July 23, 2020
Q3 2020 INTERIM STATEMENT	October 27, 2020

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Bad Oeynhausen

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